

SIMPLIFIED GUIDE
TO
CORRECT
AUTOMOBILE
WIRING

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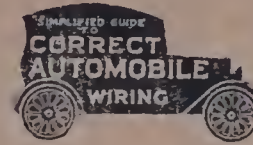
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The Simplified Guide to Correct Automobile Wiring

1921 Edition

Copyright, 1921
by



Georges Roudanez
M. E.

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The Simplified Guide to Correct Automobile Wiring

CONTAINS the correct circuit diagrams of all the different automobiles, from the first to use the electric starting and lighting system up to the very latest models of to-date, also contains the correct circuit diagrams of trucks and motorcycles that use the electric starting and lighting systems.

Contains the internal wiring of coils, cut-outs, generators, relay-regulators, starting motors, etc., of the different starting and lighting systems.

Contains description of the different units used in the electrical systems of the automobile, also instructions as to the care of these units with instructions as to the repairing of these units and how to proceed to locate trouble when it occurs.

Published by

The Automobile Engineering Company

CHICAGO

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Preface

THE SIMPLIFIED GUIDE TO CORRECT AUTOMOBILE WIRING was designed to assist the garage man, automobile mechanic, service station, auto school, automobile dealer, etc., in solving all their auto-electrical problems that occur daily.

The ONE thought followed throughout the compilation of this work was SIMPLICITY, as we know this book will fall into the hands of the non-technical man as well as the technical man; we therefore conceived the plan of making a marked contrast between the actual wiring and the outlines of the various units, such as switches, coils, horns, generators, etc. This unique feature, followed entirely throughout this book, eliminates absolutely all possible confusion that may arise in the reading of a diagram.

The Information Contained Herein is Guaranteed to be Correct

The compilation of this book was possible, only, with the co-operation of the different manufacturers, and its contents was made and checked for accuracy from data furnished by these manufacturers.

The Automobile Engineering Company

Publishers

CHICAGO

U. S. A.

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Announcement

THE Publishers desire to acknowledge their appreciation of the valuable assistance accorded them by all the Automobile and Electric Starting and Lighting Manufacturers. All of the diagrams contained herein were made from the data so kindly supplied by them.

The Publishers.

Internal and Standard Diagrams

Table of Contents

Electrical System	Models, Types, Etc.	Page
Allis-Chalmers	Single Unit System	4
Allis-Chalmers	6-volt Standard Wiring with Briggs & Stratton Inst. Panel	5
Atwater-Kent	Type K-2, C-C, Ignition Wiring	6
Atwater-Kent	Type K-2 Ignition Apparatus	7
Atwater-Kent	Type H, K-2, K-3, Ignition Circuits	8
Atwater-Kent	3rd. Brush Generator as used on Packard Single-Six	81
Atwater-Kent	Replacement Generator for Chandler and Paige Cars	82
Autolite	Generator used on Maxwell Truck	9
Autolite	Circuit Breakers Nos. 1051, 1069, 1072	83
Autolite	Ignition Coil No. IG-2000	84
Autolite	Generator G A—1½ Engine Speed; Short Shunt	85
Autolite	Generators G A & G F—Engine Speed; Long Shunt	86
Autolite	Generator G B	87
Autolite	Generator G C, & G D	88
Autolite	Generator G G	89
Autolite	Generator G H, clockwise rotation	90
Autolite	Generator G H, counter-clockwise	91
Autolite	Generators G J, & G K, clockwise rotation	92
Autolite	Generators G J, & G K, counter-clockwise rotation	93
Autolite	Diagram of Field Connection	94
Autolite	Model-M, Starting Motor	95
Autolite	Model MD, MC, MF, ME, Starting Motors	96
Autolite	Starting Motors MG, & MH; clockwise rotation	97
Autolite	Starting Motors MG, & MH; counter-clockwise rotation	98
Bijur	Flexo Model Generator	11
Bijur	Flexo Starting Motor & Cut-out	12
Bijur	Generator and Regulator as used on Grant and Kelsey Cars	99
Bosch	Solenoid Starting Switch and Motor	10
Bosch	Starting Motor, Type A	100
Bosch	Starting Motor, Types B & C	101
Bosch	Control Box, Type C. B. G	102
Bosch	Magneto Internal Circuits	10
Bosch	Dynamo or Generator, types DSG-5, -6, -7, -8, -107, -108	102

INTERNAL AND STANDARD DIAGRAMS

Table of Contents—Continued

Electrical System	Models, Types, Etc.	Page
Bosch	Dynamo or Generator, type DSG-105, DSG-106	103
Bosch	6 & 12-volt Generator, 1919, 1920, 1921 models	104
Bosch	6-volt Starting Motor, 1919, 1920, 1921 models	105
Bosch	12-volt Starting Motor, 1919, 1920, 1921 models	106
Circuit Testing	Showing construction of test points	3
Connecticut	Automatic Ignition	13
Connecticut	Standard type O & GA	14
Connecticut	Standard type H & 2N	15
Connecticut	Type G Coil	107
Connecticut	Type K automatic Ignition System	108
Delco	6-24 volt Circuit Diagram	16
Delco	1913 Ignition System	17
Delco	1914 Ignition System	18
Delco	1915 Ignition System	19
Delco	1916 Ignition System	20
Delco	1917 Ignition System	21
Delco	1918 Ignition System	22
Delco	1918, 1919, 1920, 1921 Ignition System	23
Delco	Motor Generator Circuit Diagrams	24
Delco	Motor Generator Circuit Diagrams	25
Delco	Motor Generator Circuit Diagrams	26
Delco	Motor Generator Circuit Diagrams	27
Delco	Motor Generator Circuit Diagrams	28
Delco	Motor Generator Circuit Diagrams	29
Delco	Motor Generator Circuit Diagrams	30
Dyneto	12-volt Single Unit System	31
Dyneto	6-volt Two Unit System	32
Dyneto	Generator type C A	109
Dyneto	Starting Motor, type D A	110
Dyneto	Starting Motor, type U A	111
Dyneto	Generator, type V A	112
Dyneto-Entz	Motor Generator used on 1912-1913 Franklin Cars	113
Dyneto-Entz	Motor Generator used on 1914 Franklin Cars	114

INTERNAL AND STANDARD DIAGRAMS

Table of Contents—Continued

Electrical System	Models, Types, Etc.	Page
Dyneto	Motor Generator used on 1915 Franklin Cars	115
Dyneto	Motor Generator used on 1918, 19, 20, 21 Holmes Cars	116
Dyneto	Motor Generator used on Franklin 1917, 18, 19, 20, 21 Cars	117
Electrical Symbols		1
Esterline	Internal Circuits	33
Ford	Generator & Cut-out, 1919, 1920, 1921	117
Ford	Starting Motor, 1919, 1920, 1921	118
Ford	Ignition Circuits, 1919, 1920, 1921	119
Gray & Davis	Single Unit System	34
Gray & Davis	Y-T, Two Unit System	34
Gray & Davis	Two Unit System with 3rd. Brush regulation	35
Gray & Davis	Two Unit System, types Y-T, Y-S	35
Gray & Davis	Third Brush Generator and Cut-out	120
Gray & Davis	Starting Motor with Bendix Gear	121
Heinze-Springfield	Model 33 System	36
Heinze-Springfield	Model 60 Starting Motor	36
Heinze-Springfield	Model 45, Third Brush Generator	36
Heinze-Springfield	Lay-out Wiring Diagram, Model 60 Motor, 45-Generator	37
IGNITION WIRING	Showing respective position of Cylinders on Cars	2
Jesco	Standard Model VII	38
Jesco	Standard Model 5358	39
Jesco	Internal Circuits, Size 3-13	40
Jesco	Internal Circuits, Models 3418, 5358, 5700	41
Leece-Neville	Internal Circuits of Generator	42
Leece-Neville	Connections between Motor, Generator, Circuit-Breaker	42
North East	Model A Starter Generators	43
North East	Model A Starter Generators, Polarized Relay Type	43
North East	Model 8100 Starter Generator	44
North East	Model B Starter Generator	45
North East	Model D Starter Generator	46
North East	Model G Starter Generator	47
North East	Model L Generator	48
North East	Model H, K, N, or R Starting Motor	48

INTERNAL AND STANDARD DIAGRAMS

Table of Contents—Continued

Electrical System	Models, Types, Etc.	Page
North East	Model P Combination Ignition Distributor & Generator	49
Remy	Model L, S, & T, Magneto	50
Remy	Model P & 32 Magneto	51
Remy	Model R. D. Magneto	52
Remy	Model R L Magneto	53
Remy	Model M Generator	54
Remy	Model M J Generator	54
Remy	Model 180-B Starting Motor	55
Remy	Model 172-A Ignition System	55
Remy	Model 166-B Generator & 60-A Regulator	56
Remy	Model 262-A Relay Regulator & 129-B Motor Generator	57
Remy	Various Generators and Relays	122
Remy	Various Generators and Relays	123
Remy	Various Generators and Relays	124
Remy	Internal Circuits of Various Ignition Coils	125
Remy	Various Motor Generators and Relays	126
Remy	Various Motor Generators and Relays	127
Remy	Various Starting Motors	128
Remy	Various Starting Motors	129
Remy	Various Starting Motors	130
Simms-Huff	Types HB & HK Motor Generator, 6-12 volt	58
Simms-Huff	Type H M Motor Generator, 12-volt System	59
Simms-Huff	Motor Generator, Type SMS	60
Simms-Huff	Starting Motor, Type B	60
Simms-Huff	Generator, Type G	60
Splitdorf	Two Unit Standard Diagram	61
Splitdorf	Model R G U Generator with Ward Leonard Regulator	62
Studebaker	Internal Connections of Junction Block, 1920, 1921	131
U. S. L.	E-49 Starter, Generator and Regulator	64
U. S. L.	Starter Lighter, Types E-104, -111, -119, -120, -135, -138, -167, -169, -171. All 24-12 volt types	132
U. S. L.	Starter and Lighter, Type E-177, used on Mercer 1915	133
U. S. L.	Starter and Lighter, Types E-177, -189, -194, -195, -197, 12-12 volts types, as used on 1916 Mercer	134

INTERNAL AND STANDARD DIAGRAMS

Table of Contents—Continued

Electrical System	Models, Types, Etc.	Page
U. S. L.....	Starter and Lighter, Types E-185, -191, -198, Includes Brewster.....	135
U. S. L.....	Starter and Lighter, Type E-207, Includes 1917 Mercer.....	136
Wagner.....	Internal Circuits.....	65
Ward-Leonard.....	Types CC and CD Automatic Controller.....	66
Ward-Leonard.....	Diagram of Wiring Connections for Standard System.....	67
Ward-Leonard.....	Simplified illustration of operation of Type CC Automatic control.....	138
Ward-Leonard.....	Explanation of operation of Automatic Controllers.....	139
Westinghouse.....	System used on Hupmobile.....	69
Westinghouse.....	Internal Circuits as used on Dorris 1916 Cars.....	70
Westinghouse.....	Generator used with External Cut-out.....	71
Westinghouse.....	Automatic Electro-Magnetic Pinion Shift.....	71
Westinghouse.....	Starting and Lighting System with Vertical Igniton.....	72
Westinghouse.....	Model 400 Generator with Separately Mounted Regulator.....	73
Westinghouse.....	Generator used with Internal Cut-out.....	74
Westinghouse.....	Model 450 Generator with Separately Mounted Cut-out Switch.....	75
Westinghouse.....	System Used on the 1914, 1915 Pierce-Arrow Cars.....	76
Westinghouse.....	Ignition and Lighting Generators, Nos. 236, 246, 280.....	77
Westinghouse.....	Type Voltage Regulator used with No. 400 Frame Generator.....	78
Westinghouse.....	No. 208-R Lighting Generator and Regulator.....	78
Westinghouse.....	Various Starting Motors, Generators and Cut-Outs.....	79
Westinghouse.....	Internal Circuits as used on 1915 Dorris Cars.....	80
Westinghouse.....	760-A, Frame Generator, L. H. Rotation, 3rd Brush and Cut-out.....	137
Westinghouse.....	760-B, Frame Generator, L. H. Rotation, 3rd Brush and Cut-out.....	140
Westinghouse.....	760-C, Frame Generator, R. H. Rotation, 3rd Brush & External Cut-out.....	141
Westinghouse.....	760-D, Frame Generator, L. H. Rotation, 3rd Brush and Cut-out.....	142
Westinghouse.....	760-E, Frame Generator, R. H. Rotation, 3rd Brush and Cut-out.....	143
Westinghouse.....	760-F, Frame Generator, R. H. Rotation, 3rd Brush and Cut-out.....	144
Westinghouse.....	765-H, Frame Generator, R. H. Rotation, 3rd Brush, External Cut-out.....	145
Westinghouse.....	750, Frame Motor, R. H. Rotation.....	146
Westinghouse.....	776 and 778, Frame Motors, R. H. Rotation.....	147
Westinghouse.....	777, Frame Motor, R. H. Rotation.....	148
Westinghouse.....	781-R, Frame Motor.....	149

Automobile Wiring Diagrams

Table of Contents—1912 Models

Car	Model	System	Page	Car	Model	System	Page
Cadillac	1912 Model	Delco	344	Locomobile	1911-12-13;		
Cole	30,-40	Ward-Leonard	384		Models 30-48-38	Rushmore	585
Glide	36,-42	Ward-Leonard	478	Moline-			
Haynes	21-22-23-24-25	Leece-Neville	500	Knight	M*K 40	Ward-Leonard	630

1913 Models

Car	Model	System	Page	Car	Model	System	Page
Apperson	45-55	Gray & Davis	312	Locomobile	30,-38,-48	Rushmore	585
Apperson	1913 Model	Ward-Leonard	313	Locomobile	30,38,-48	Adlake	586
Apperson	4-45, 4-55	Esterline	311	Marmon	32	North East	593
Auburn	4-40, 4-41, 6-45,			Marmon	48	North East	594
	6-46	Remy	841	Michigan	1913 Models	North East	623
Cadillac	1913 Model	Delco	345	Moline-			
Chandler	"14"	Westinghouse	368	Knight	M K-40	Ward-Leonard	630
Cole	4-40, 4-50, 6-60	Delco	385	Oakland	35, 42	Deaco	660
Columbus	1913 Models	North East	395	Oakland	35 Special	Briggs-Maglite	658
Cunningham	M	North East	401	Oakland	42, 6-60	Delco	662
Dorris	H	Westinghouse	422	Oakland	42	Deaco	661
Ford	Standard Ignition		450	Oakland	35	Westinghouse	663
Franklin	2-D*H*K	Entz	466	Oakland	35	Deaco	659
Franklin	3-M	Entz	467	Oldsmobile	53	Delco	674
Galt	1913 Model	North East	473	Overland	69,-71	Autolite	682
Glide	36-, 42-	Westinghouse	479	Overland	69,-71	U. S. L.	683
Havers	1913 Model	North East	498	Packard	2-48	Bijur	700
Haynes	21,-2,-3,4,-5	Leece-Neville	500	Pullman	1913 Model	North East	736
Hudson	54,-37	Delco	520	Regal	N, T.	Rushmore	741
Imperial	34	North East	532	Studebaker	Four	Wagner	794
Kissel-Kar	F, D, H, L, D,-13	Esterline	567	Warren	1913 Model	North East	810

Table of Contents—1914 Models

Car	Model	System	Page	Car	Model	System	Page
Allen	35	Autolite	302	Hudson	6-54	Delco	522
Allen	33,-34	Westinghouse	301	Hupmobile	32	Westinghouse	526
Apperson	4-45, 6-45, 6-58	Bijur	314	Imperial	34	North East	533
Auburn	4-40, 4-41, 6-45, 6-46	Remy	841	Imperial	32-34-39-44-54-56	North East	534
Buick	B-24-25-36-37	Delco	334	Jackson	46	North East	543
Buick	B-54-55	Delco	335	Jeffery	Four	U. S. L.	550
Cadillac	1914 Model	Delco	346	Kissel-Kar	F-14, 6-48	Esterline	567
Cartercar	7	Delco	351	Kissel-Kar	H-14	Esterline	568
Case	O	Westinghouse	353	Knox			
Case	R-S	Westinghouse	354	Tractor	All models	Bijur	897
Chalmers	24	Entz	360	Locomobile	30-38-48	Adlake	568
Chandler	15	Westinghouse	369	Lyons-			
Chandler	15-B	Gray & Davis	370	Knight	1914	North East	589
Cole	9	Delco	386	Marmon	41,-48	North East	594
Cunningham	R	Westinghouse	402	Mercer	35-G-H-K	Rushmore	609
Dorris	I	Westinghouse	423	Metz	E	North East	619
Empire	31	Remy	440	Metz	Late Models	North East	618
Enger	1914 Model	North East	447	Mitchell-			
Ford	Standard Ignition		450	Lewis	All models	Remy	914
Franklin	2-D-H-M	Entz	466	Moline-			
Franklin	3-M	Entz	467	Knight	MK-40	Ward-Leonard	630
Franklin	Series 4, 4-M, Sedan	Dyneto	874	Moline			
Franklin	6-M	Entz	469	Knight	MK-50	Wagner	631
Franklin	M-6-7-8	Entz	468	Moon	42,-6-50	Delco	637
Glide	30	Westinghouse	480	National	A A	Remy	921
Grant	M	Allis-Chambers	486	Oakland	48, 62, 43	Delco	665
Havers	1914 Model	North East	499	Oakland	36	Delco	664
Haynes	26-27-28	Leece-Neville	501	Oldsmobile	54	Delco	674
Henderson	Cam Type	Ward-Leonard	510	Overland	79-B	Gray & Davis	684
Henderson	Harpoun Type	Ward-Leonard	511	Packard	1914 Model	Bijur	701
Hudson	6-40	Delco	521	Packard	2-38, 4-48	Bijur	702
				Paterson	32-33	Delco	715

Table of Contents—1914 Models—Continued

Car	Model	System	Page
Pierce-Arrow	38C2-48B2	Westinghouse	726
Premier	A	Remy	732
Regal	N-T	Rushmore	741

Car	Model	System	Page
Reo	1914	Remy	747
Studebaker	Four	Wagner	794
Westcott	O-30	Jesco	812
Winton	21	Gray & Davis	827

1915 Models

Car	Model	System	Page
Allen	35	Autolite	302
Allen	33-34	Westinghouse	301
Alter	1915 Model	Remy	309
Apperson	4-40, 6-45, 6-48	Bijur	315
Auburn	6-40	Delco	320
Auburn	4-40, 4-41, 6-45, 6-46	Remy	841
Briscoe	Single Light	Splitdorf	327
Briscoe	Two Headlight	Splitdorf	328
Buick	C-24-25	Delco	336
Buick	C-36-37-54-55	Delco	337
Buick Truck	C-4	Delco	342
Cadillac	1915 Model	Delco	347
Cartercar	9	Delco	352
Case	R-S	Westinghouse	354
Case	R	Westinghouse	355
Chalmers	26	Entz	363
Chalmers	26-B	Entz	361
Chalmers	29	Entz	362
Chalmers	32	Westinghouse	364
Chandler	16	Gray & Davis	370
Chevrolet	490	Autolite	380
Chevrolet	(L) H-2, H-3, H-4	Autolite	374
Chevrolet	(E) H-2, H-3, H-4	Autolite	375
Cole	4-40, 6-50	Delco	387

Car	Model	System	Page
Crow-Elkhart	C.E. Jr.	Disco	398
Cunningham	S	Westinghouse	403
Detroit	Four Cylinder	Remy	857
Dorris	1-A-6	Westinghouse	425
Dorris	1-A-4	Westinghouse	424
Dort	4 & 5	Splitdorf	430
Empire	31-40	Remy	441
Empire	33	Remy	442
Ford		Fisher	872
Franklin	6-M	Entz	469
Franklin	M-6-7-8	Entz	468
S. G. Gay	1915 Models	Allis-Chalmers	475
Glide	7361-7389	Westinghouse	481
Glide	7389-7698	Westinghouse	482
Grant	6	Allis-Chalmers	487
Haynes	34-35	Leece-Neville	502
Henderson	Cam Type	Ward-Leonard	510
Henderson	Harpoun Type	Ward-Leonard	511
Herf Brooks	1915	Splitdorf	512
Hollier	158	Splitdorf	515
Hudson	6-40	Delco	523
Hudson	6-54	Delco	522
Hupmobile	32	Westinghouse	526
Hupmobile	K	Westinghouse	527

Table of Contents—1915 Models—Continued

Car	Model	System	Page	Car	Model	System	Page
Interstate	T	Remy	541	Overland	82	Autolite	688
Jackson	48	Delco	544	Packard	3-38, 5-48	Bijur	703
Jackson	44	North East	545	Partin-			
Jeffery	Four	U.S.L	550	Palmer	38	Allis-Chalmers	714
Jeffery	Chesterfield 6	Bijur	551	Paterson	4-32, 6-48	Delco	716
King	D	Ward-Leonard	563	Peerless	55	Gray & Davis	721
King	C	Ward-Leonard	562	Pierce-			
Kissel-Kar	36	Westinghouse	569	Arrow	38C3-38B3	Westinghouse	727
Knox				Premier	6-50	Remy	733
Tractor	All Models	Bijur	897	Pullman	1915	Splitdorf	737
Krit	1915	North East	575	Regal	DR,-RR,-RD	Rushmore	743
L. P. C.	All Models	Remy System	900	Regal	M-25,-4	Dyneto	742
Lexington	4-K, 6-L	Westinghouse	577	Regal	D	Dyneto	744
Locomobile	38-48	Westinghouse	587	Reo	M-R	Remy	748
Marmon	6-14	Bosch	903	Russel	32-48	Bijur	758
Maxwell	1915	Simms-Huff	598	Saxon	Four	Ward-Leonard	759
McFarlan	1915	Westinghouse	605	Saxon	S	Gray & Davis	760
Mercer	22, 70	U.S.L	610	Scripps-			
Metz	G	Gray & Davis	620	Booth	1915	Bijur	771
Mitchell	All Models	Remy	914	Sphinx	1915	Splitdorf	780
Mitchell-				Standard	E	Westinghouse	781
Lewis	1915	Splitdorf	626	Stephens-			
Moline-				Duryea	D-6	Delco	793
Knight	MK-50	Wagner	631	Studebaker	ED*SF	Remy	795
Moon	4-38, 6-40	Delco	638	Stutz	F*C-R	Remy	798
New Era	1915	Allis-Chalmers	656	Velie	Series 15	Gray & Davis	804
Oakland	37-49	Delco	666	Wayne	1915	Splitdorf	811
Oldsmobile	42	Delco	676	Westcott	U-6, O-35	Splitdorf	813
Overland	75-LD-T	Autolite	685	White	30-40-60	White	818
Overland	80-C-R-T	Autolite	686	Winton	21	Gray & Davis	827
Overland	81-LD-R-T	Autolite	687	Winton	21-A	Bijur	828

Table of Contents—1916 Models

Car	Model	System	Page	Car	Model	System	Page
Abbott-				Crow-			
Detroit	6-44	Remy	300	Elkhart	C.E. 33-35	Dyneto	400
Allen	37	Westinghouse	304	Cunningham	V-1	Westinghouse	404
Allen	37-Dim	Westinghouse	303	Daniels	A-8	Westinghouse	406
Alter	1916	Remy	309	Davis	C-38, 6-E, 6-G	Delco	408
Apperson	6-48, 8-58	Westinghouse	317	Detroit	Four Cylinder	Remy	857
Apperson	6-48	Bijur	316	Detroit	Eight Cylinder	Remy	858
Apperson	6-48, 8-58	Bijur	318	Dixie Flyer	First 2200 cars	Dyneto	414
Auburn	6-40 A	Delco	321	Dixie Flyer	L-3	Dyneto	415
Auburn	438, 6-38, 6-40	Remy	842	Dodge	No. 1 to 69742	North East	418
Bell	1916	Ward- Leonard	324	Dorris	1-B-6	Westinghouse	426
Bethlehem				Dort	5-A	Westinghouse	431
Truck	1916	Gray & Davis	325	Elcar	1916 Models	Dyneto	866
Briscoe	4-38	Splitdorf	329	Elcar	1916 Models	Splitdorf	438
Briscoe	8-38	Splitdorf	330	Elkhart	1916	Splitdorf	438
Briscoe	4-24	Splitdorf	331	Empire	33	Remy	442
Brown	1916	Allis-Chalmers	333	Empire	45	Autolite	444
Buick	D-44-45-54-55	Delco	338	Empire	40	Autolite	443
Buick Truck	D-4	Delco	343	Enger	Twin-Six, '17	Westinghouse	865
Cadillac	53	Delco	348	Ford		Fisher	872
Case	T	Westinghouse	356	Ford	Standard Ignition		450
Chalmers	35-A	Westinghouse	365	Ford	Early Single Unit	Disco	453
Chalmers	6-40	Westinghouse	364	Ford	Two Unit	Disco	454
Chandler	17	Gray & Davis	371	Ford	Two Unit	Disco	455
Chevrolet	490	Autolite	380	Ford	X	Disco	456
Chevrolet	H-2, H2½, H-4	Autolite	376	Ford	Single Unit	Gray & Davis	457
Cole	6-66	Delco	387	Ford	Two Unit	Gray & Davis	458
Cole	8-50	Delco	388	Ford		Heinze-Springfield	459
Crow-				Ford		North East	460
Elkhart	23, 30	Disco	398	Ford		North East	461
Crow-				Ford		Splitdorf	462
Elkhart	C.E. 30-33	Dyneto	399	Ford		Westinghouse	463

Table of Contents—1916 Models—Continued

Car	Model	System	Page	Car	Model	System	Page
Fostoria				Kissel-Kar .. 32	Westinghouse	...	571
Light Car		Allis-Chalmers	464	Knox			
Franklin ... 6-M		Entz	469	Tractor .. All Models	Bijur	...	897
Franklin ... M-6-7-8		Entz	468	L. P. C. All Models	Remy	...	900
Franklin ... M-8		Dyneto	470	Lexington .. O	Westinghouse	...	579
Glide ... 6-40		Westinghouse	483	Lexington .. 6-N	Westinghouse	...	578
Grant ... Six-V		Allis-Chalmers	488	Locomobile .38, 38	Westinghouse	...	587
H.A.L. 21,-2A,-21B		Westinghouse	492	Locomobile .38, 48	Westinghouse	...	588
Harley Davidson Motorcycle		Remy	495	Madison ... Series 1-2-3	Remy	...	590
Haynes ... 34-35		Leece-Neville	502	Marmon ... 6-41	Bosch	...	903
Haynes ... 34, 34R, 35		Leece-Neville	504	Maxwell ... 1916	Simms-Huff	...	599
Haynes ... 36, R, 38, 39, 39R		Leece-Neville	503	McFarlan .. 1916	Westinghouse	...	606
Herf Brooks. 1916		Splitdorf	513	McLaughlin. D-45	Delco	...	907
Hollier ... 168		Splitdorf	515	Mercer ... 27-20	U.S.L.	...	611
Holt Cat.				Metz. G	Gray & Davis		620
Tractor		North East	519	Mitchell-			
Hudson ... Super Six		Delco	525	Lewis ... 1916	Splitdorf	...	627
Hudson ... 6-40-G		Delco	524	Moline-			
Hupmobile .N		Bijur	528	Knight .. MK-40,-50	Wagner	...	632
Hupmobile .N		Westinghouse	529	Moon ... 6-30-40	Delco	...	639
Indian Motorcycle		Splitdorf	535	National ... 6	Westinghouse	...	650
Interstate .. T		Remy	541	National ... 12	Westinghouse	...	651
International				New Era ... 1916	Allis-Chalmers	...	657
Harvester... Truck		North East	538	Oakland ... 50	Delco	...	669
Interstate ... T, TR, TD, TC, TF		Remy	542	Oakland ... 32-B	Delco	...	667
Jackson ... 44		North East	545	Oakland ... 38	Delco	...	668
Jackson ... 68		Autolite	546	Old Hickory. Truck	Dyneto	...	673
Jackson ... 348		Autolite	547	Oldsmobile .43	Delco	...	677
Jeffery ... 462-661		Bijur	552	Oldsmobile .44	Delco	...	678
King ... E		Ward-Leonard	564	Overland .. 86	Autolite	...	692
Kissel ... 100 Point Six		Remy	896	Overland .. 83-B, BD, E, EX,			
Kissel-Kar .. 42-6		Westinghouse	570	R, T	Autolite	...	690

Table of Contents—1916 Models—Continued

Car	Model	System	Page	Car	Model	System	Page
Overland	BDE	Autolite	689	Sayers &			
Overland	83-EX, LD, R, T	Autolite	691	Scovill	6	Delco	767
Oshkosh	Four Wheel Drive	North East	698	Scripps-			
Packard	1-25, 1-35	Bijur	704	Booth	8-C-DH	Wagner	772
Paige	G-6	Gray & Davis	708	Simplex	Crane-B	Bosch	778
Paige	H-6	Gray & Davis	709	Sphinx	1916	Splitdorf	780
Paterson	6-42	Delco	717	Standard	E	Westinghouse	781
Pathfinder	One-B	Delco	719	Stephens	65	Autolite	789
Peerless	56-57-FF	Gray & Davis	722	Studebaker	ED-SF	Remy	795
Pierce-				Stutz	F-C-R	Remy	798
Arrow	38-48-66	Westinghouse	728	Sun Light Six	17	Remy	800
Pilot	6-45	Delco	730	Sweeney			
Pullman	1916-6	Splitdorf	738	Tractor	1916	Remy	958
Pullman	1916-12	Splitdorf	739	Velie	22	Remy	805
Regal	M-B	Dyneto	745	Velie	27	Remy	806
Reo	M-R-S-V	Remy	749	Velie	28	Remy	807
Roamer	No. 1 to 13126	Bijur	754	Westcott	41-51	Delco	814
Russell	32-48	Bijur	758	White	30-40-60	White	818
Saxon	S	Gray & Davis	761	Willys-			
Saxon	S-2	Ward-Leonard	762	Knight	84-R-T	Autolite	821
Saxon	S-2, S-2R	Wagner	763	Willys-			
Sayers &				Knight	84-C-R	Autolite	820
Scovill	4	Delco	766	Winton	22-22A	Bijur	829

1917 MODELS

Car	Model	System	Page	Car	Model	System	Page
Abbott-				Auburn	6-39-H-K	Remy	322
Detroit	6-44	Remy	300	Auburn	4-38, 6-38, 640	Remy	842
Allen	Classic	Westinghouse	305	Austin	12	Delco	323
American	A	Westinghouse	310	Bell	1917	Ward-Leonard	324
Apperson	6-17, 8-17	Bijur	317	Bethlehem			
Auburn	6-44	Delco	321	Truck	1917	Gray & Davis	325

Table of Contents—1917 Models—Continued

Car	Model	System	Page	Car	Model	System	Page
Briscoe	4-24	Splitdorf	331	Ford	1917 Models	12-V. Fisher	873
Buick	D-6-44-45-46-47	Delco	338	Ford	Standard Ignition		450
Buick	D-34-35	Delco	339	Ford	Single Unit	Disco	453
Cadillac	55	Delco	349	Ford	Early 2 Unit	Disco	454
Case	T	Westinghouse	357	Ford	2 Unit	Disco	455
Chalmers	35-B	Westinghouse	366	Ford	X	Disco	456
Chandler	17	Gray & Davis	372	Ford	Single Unit	Gray & Davis	457
Chevrolet	490	Autolite	380	Ford	Two Unit	Gray & Davis	458
Chevrolet	F-A	Autolite	377	Ford		Heinze-Springfield	549
Cole	8-8-0	Delco	390	Ford		North East	460
Cole	8-6-0	Delco	389	Ford		North East	461
Commerce				Ford		Splitdorf	462
Truck	E	Bijur	396	Ford		Westinghouse	463
Crow-				Four Wheel Drive Truck		North East	465
Elkhart	C.E. 30-33	Dyneto	399	Franklin	Series 9	Dyneto	471
Crow-				G.M.C.			
Elkhart	C.E. 33-35	Dyneto	400	Truck	All Models	Delco	476
Cunningham	V-2	Westinghouse	404	Glide	6-40	Westinghouse	483
Daniels	A-8	Westinghouse	406	Grant	K-6	Wagner	489
Davis	6-H, I, K	Delco	409	H.A.L.	21-21A-21B	Westinghouse	492
Davis	6-J	Delco	410	Harley Davidson Motorcycle		Remy	495
Deering Magnetic		Owen-Mag	413	Harroun	A-A-1	Remy	496
Dixie Flyer	L-3	Dyneto	415	Haynes	36, 36R, 37, 38, 39R	Leece-Neville	503
Dodge	No. 69743 to 90000	North East	419	Haynes	40, 40R, 41	Leece-Neville	505
Dorris	I-C-6	Westinghouse	427	Hollier	178	Splitdorf	515
Dort	Early 6	Westinghouse	432	Hollier	186	Allis Chalmers	514
Dort	Late 6-9	Westinghouse	433	Holt Caterpillar Tractor		North East	519
Elcar	1917 Models	Dyneto	866	Hudson	Super Six	Delco	525
Elgin	Elgin Six	Wagner	436	Hupmobile	N	Westinghouse	529
Empire	60	Autolite	445	Hupmobile	R	Bijur	530
Empire	50-51-70-71-A	Autolite	446	Indian Motorcycle		Splitdorf	535
Euger	Twin-Six	Westinghouse	867	International Motor Truck		North East	539

Table of Contents—1917 Models—Continued

Car	Model	System	Page	Car	Model	System	Page
Interstate	T, TR, TF, TC, TD	Remy	542	Moline-			
Jackson	Wolverine 349	Autolite	548	Knight	MK-40-50-G-L	Wagner	633
Jeffery	671	Bijur	553	Monitor	C-N	Heinze	635
Jones	B-26	Autolite	554	Monroe	45, 6-M	Autolite	636
Jordan	All Models	Bijur	557	Moon	6-43	Delco	640
King	EE, F	Bijur	565	Moon	6-45, 6-66	Delco	641
Kissel	100 Point Six	Remy	896	Nash Truck	2018-3018	Autolite	648
Kissel-Kar	Double Six	Westinghouse	572	National	6-AF	Westinghouse	653
Knox				National	12-AK-AM	Bijur	652
Tractor	All Models	Bijur	897	Oakland	32-B, 34	Delco	670
Lexington	O	Westinghouse	580	Old Hickory Truck		Dyneto	673
Liberty	10-A, 10-B	Delco	583	Oldsmobile	37	Remy	927
Locomobile	38, 48	Westinghouse	588	Oldsmobile	37	Delco	679
Madison	Series 1-2-3	Remy	590	Oldsmobile	45	Delco	680
Marmon	34	Bosch	595	Oshkosh	Four Wheel Drive	North East	689
Maxwell	1917	Simms-Huff	600	Overland	85, 4, C, R, SN, T	Autolite	693
Maxwell	One Ton Truck	Autolite	604	Overland	85, 6, C, SN, R, T	Autolite	694
McLaughlin	D-34	Delco	908	Overland	86-B	Autolite	695
McFarlan	McFarlan Six	Westinghouse	607	Overland	90-CL, R, T	Autolite	696
Mercer	22-73	U.S.L.	612	Packard	2-25, 2-35	Bijur	705
Meteor	75-A, 80-A	Delco	615	Paige	H-6	Gray & Davis	709
Meteor	75 & 80	Delco	614	Paige	R-18	Gray & Davis	711
Metz	G	Gray & Davis	620	Paige	M-18	Remy	710
Metz	G	Westinghouse	621	Pan	250	Remy	932
Mich. Hearse				Paterson	6-45, 6-45R	Delco	717
& Motors				Pathfinder	12	Delco	720
Co.	6	Delco	624	Peerless	56-FF	Gray & Davis	723
Mitchell	C-42, D-40	Remy	912	Piedmont	4-30	Dyneto	937
Mitchell	D-40	Splitdorf	628	Pierce-			
Moline-				Arrow	38-48-66	Westinghouse	728
Knight	MK-40-50	Wagner	632	Pilot	6-45	Delco	730

Table of Contents—1917 Models—Continued

Car	Model	System	Page	Car	Model	System	Page
Premier	B, 6-B, 6C	Delco	734	Stephens	60-65	Delco	790
Pullman	4-24	Splitdorf	740	Stephens	65	Autolite	789
Regal	F, J	Autolite	746	Studebaker	ED-SE	Remy	795
Reo	M, N, R, S	Remy	750	Stutz	F-C-R	Remy	798
Reo Truck	F	Remy	752	Sun Light Six	17	Remy	800
Riddle Coach & Hearse		Delco	753	Sweeney			
Roamer	R-A	Bijur	755	Tractor	1917	Remy	958
Roamer	R-A, R-A-C	Bijur	756	Velie	27	Remy	806
Rusell	32-48	Bijur	758	Velie	28	Remy	807
Saxon	Four	Wagner	764	Westcott	Series 17	Delco	815
Saxon	S4, S4R, S4S	Wagner	765	White	G-M	Leece-Neville	819
Sayers & Scoville	1917	Delco	768	Willys-Knight	88-4-T-SN-LIM	Autolite	822
Scripps-Booth	8-CDH	Wagner	772	Willys-Knight	88-4-BRO-C-SN-LIM	Autolite	823
Scripps-Booth	G	Remy	773	Willys-Knight	88-88SN-C-R-LIM		
Seneca	D, H	Allis-Chalmers	777		T	Autolite	824
Simplex	Crane-B	Bosch	778	Winton	22-22-A	Bijur	829
Standard	F	Westinghouse	782	Winton	Models up to 21	Bijur	830
Standard	G-H	Westinghouse	783				

1918 Models

Car	Model	System	Page	Car	Model	System	Page
Allen	41	Autolite	306	Bethlehem Truck		Gray & Davis	325
American	A	Westinghouse	310	Briscoe	4-24	Autolite	331
Apperson	8-18-A	Bijur	319	Buick	E-34,-35	Delco	339
Atlas	¾ Ton Truck	Remy	840	Buick	E-44-45-47-49-50	Delco	340
Auburn	4-38, 6-38, 6-40	Remy	842	Buick Truck	F-A	Delco	339
Auburn	6-44	Delco	321	Cadillac	55	Delco	349
Auburn	6-39-H-K	Remy	322	Case	U	Westinghouse	358
Austin	12	Delco	323	Chalmers	35-C	Westinghouse	367

Table of Contents—1918 Models—Continued

Car	Model	System	Page	Car	Model	System	Page
Chandler	17	Gray & Davis	372	Ford	Two Unit	Gray & Davis	458
Chevrolet	490	Autolite	380	Ford		Heinze-Springfield	459
Chevrolet	D	Autolite	378	Ford		North East	460
Chevrolet	F-A	Autolite	377	Ford		North East	461
Chevrolet				Ford		Splitdorf	462
Truck	T	Autolite	381	Ford		Westinghouse	463
Cole	8-60, 8-70	Delco	391	Franklin	Series 9	Dyneto	471
Commerce				Four Wheel Drive Truck		North East	465
Truck	E	Bijur	396	Glide	Light Six-40	Westinghouse	484
Crow-				Grant	G-6	Wagner	490
Elkhart	H, K-32-34-36-44-42-46	Dyneto	400	Grant Truck	9, 10, 11, 15, 16, 17	Remy	877
Cunningham	V-3	Westinghouse	405	Gramm-			
Daniels	A-H	Westinghouse	406	Bernstein Truck		North East	485
Davis	6-H, 6-I, 6-K	Delco	409	Harley-Davidson Motorcycle		Remy	494
Davis	6-J	Delco	410	Harroun	AA1	Remy	496
Deering-Magnetic		Owen-Magnetic	413	Haynes	36, R, 37, 39, 39R	Leece-Neville	503
Dixie Flyer	L	Dyneto	416	Haynes	40-40R-41	Leece-Neville	505
Dodge	No. 90000 to 275255	North East	420	Haynes	39-5	Leece-Neville	506
Dorris	6-80	Westinghouse	428	Hollier	188	Splitdorf	515
Dorris Truck	K-4	Westinghouse	429	Holmes	1	Dyneto	517
Dort	8-11-11T	Westinghouse	434	Holt Caterpillar Tractor		North East	519
Elgin	Elgin Six	Wagner	436	Hudson	Super Six	Delco	525
Empire	50-51-70-71A	Autolite	446	Hupmobile	R	Bijur	530
Ford		Fisher	873	Indian Motorcycle		Splitdorf	536
Ford	Standard Ignition		450	International Motor Truck		North East	540
Ford	Single Unit	Disco	453	Interstate	T, TR, TF, TC, TD	Remy	542
Ford	Early 2 Unit	Disco	454	Jackson	53	Autolite	549
Ford	2 Unit	Disco	455	Jones	28	Westinghouse	555
Ford	X	Disco	456	Jordan	C	Bijur	558
Ford	Single Unit	Gray & Davis	457	King	EE, F	Bijur	565
				Kissel-Kar	Double-Six	Westinghouse	572

Table of Contents—1918 Models—Continued

Car	Model	System	Page	Car	Model	System	Page
Kissel-Kar	.. 100 Pt. 6	Remy	573	National	... 12-A-K-A-M	Bijur	652
Knox				National	... A-L	Westinghouse	654
Tractor	.. All Models	Bijur	897	Oakland	... 34-B	Remy	671
Lexington	.. 6-R	Westinghouse	581	Old Hickory Truck		Dyneto	673
Liberty	... 10-A, 10-B	Delco	583	Oldsmobile	. 37	Remy	927
Locomobile	. 38-48	Westinghouse	588	Oldsmobile	. 45-A	Delco	680
Madison	... Series 1-2-3	Remy	590	Oshkosh Four Wheel Drive	...	North East	698
Maibohm	.. B	Wagner	591	Overland	.. OEX, PLD, R, SN,		
Marmon	... 34	Bijur	596		B-SN	Autolite	696
Maxwell	... 1918	Simms-Huff	601	Owen-			
Maxwell One Ton Truck		Autolite	604	Magnetic	. W-42	Owen-Magnetic	699
McLaughlin	. D-34	Delco	908	Packard	... 2-25, 2-35	Bijur	705
McFarlan	.. McFarlan Six	Westinghouse	607	Packard	... 3-25, 3-35	Bijur	706
Mercer	... 22-74-4	Westinghouse	613	Packard			
Meteor	... 75-A, 80-A	Delco	615	Truck	... D-E	Bijur	707
Meteor	... 75-80-82-90-91-92	Delco	616	Paige	... R-18	Gray & Davis	711
Metz	... G	Westinghouse	621	Paige	... M-18	Remy	710
Mich. Hearse & Motors Co.		Delco	624	Paterson	... 6-45, 6-45R	Delco	717
Mitchell	... D-40, E-40	Remy	912	Peerless	... 4-F	Autolite	724
Mitchell	... D-40	Splitdorf	628	Piedmont	.. 4-30	Dyneto	937
Moline-				Piedmont	.. 6-40	Remy	938
Knight	.. MK-40-50	Wagner	632	Pierce-			
Moline				Arrow	... 48	Westinghouse	728
Knight	.. MK-40-50-G-L	Wagner	633	Pilot	... 6-45	Delco	730
Monitor	... C-N	Heinze	635	Premier	... B, 6-B, C	Delco	734
Monroe	... 45-6-M	Autolite	636	Regal	... F-J	Autolite	746
Moon	... 6-45, 6-66	Delco	641	Reo	... T-6, U-6	North East	751
Nash	... 681-682	Delco	643	Reo Truck	.. F	Remy	752
Nash Truck	. 2018-3018	Autolite	648	Riddle Coach & Hearse		Delco	753
Nash Truck	. 2718	Wagner	649	Roamer	... D4-75, C6-54	Bijur	757
National	... 6-A-F	Westinghouse	653	Russell	... 32-48	Bijur	758

Table of Contents—1918 Models—Continued

Car	Model	System	Page
Saxon	Y-18	Wagner	765
Sayers & Scovill	1918	Delco	768
Sayers & Scovill	Touring	Delco	769
Scripps-Booth	8-CDH	Wagner	772
Scripps-Booth	G	Remy	773
Scripps-Booth	6-39-6-40	Remy	774
Seneca	D-H	Allis-Chalmers	777
Standard	G-H	Westinghouse	783
Stanley Steamer	735	Apelco	785
Stearns	SKL-4	Remy	787

Car	Model	System	Page
Stephens	70-75	Delco	790
Studebaker	EG-EH-SH	Wagner	796
Stutz	S-G-H	Remy	799
Templar	4-4-5	Remy	801
Velie	3-8	Remy	808
Westcott	Series 1-8	Delco	815
White	G-M	Leece-Neville	819
Willys-Knight	88-4, T, SN, LIM	Autolite	822
Willys-Knight	88-4, BRO, C, SN	Autolite	823
Willys-Knight	88-8, SN, C, R, T	Autolite	824
Willys-Knight	89, CLR, SN, T	Autolite	825
Winton	22-22A	Bijur	829

1919 Models

Car	Model	System	Page
Allen	41	Autolite	307
Allen	43	Autolite	834
American	B	Westinghouse	833
Apperson	8-19	Bijur	319
Atlas	¾ Ton Truck	Remy	840
Auburn	6-39	Remy	843
Auburn	6-39-H-K	Remy	322
Briscoe	4-24	Autolite	331
Buick	H-44, 45-46-47-49-50	Autolite	341
Cadillac	57	Delco	349
Case	V-19	Westinghouse	357
Chalmers	6-30	Westinghouse	369
Chandler	6	Westinghouse	373

Car	Model	System	Page
Chevrolet	D	Autolite	378
Chevrolet	F-B	Autolite	379
Chevrolet Truck	T	Autolite	381
Cleveland	Six	Gray & Davis	382
Cole	870	Delco	392
Columbia	1919	Autolite	393
Commonwealth	4-40	Dyneto	397
Commerce Truck	E	Remy	853
Crow-Elkhart	H, K, 32, 34, 36, 42, 44, 46	Dyneto	400

Table of Contents—1919 Models—Continued

Car	Model	System	Page	Car	Model	System	Page
Cunningham	V-3	Westinghouse	405	Grant	H	Wagner	491
Daniels	D-19	Westinghouse	407	Grant Truck	9, 10, 11, 15, 16, 17	Remy	877
Davis	6-H, I, J, K	Delco	411	Harroun	AA1	Remy	496
Deering-Magnetic		Owen-Magnetic	413	Haynes	45	Leece-Neville	507
Dixie Flyer	H	Dyneto	416	Hollier	206	Splitdorf	516
Dodge	275255 up	North East	421	Holmes	2	Dyneto	518
Dorris	6-80	Westinghouse	428	Holt Caterpillar Tractor		North East	519
Dorris Truck	K-4, K-7	Westinghouse	429	Hudson	Super Six	Delco	525
Dort	10, 11, 10C, 15, 15S	Westinghouse	434	Hupmobile	R	Bijur	530
Dort	39, 39L, C-39, C-39L	Westinghouse	435	Indian Motorcycle		Splitdorf	537
Elgin	H	Wagner	437	Jackson	53	Autolite	549
Essex	A	Delco	448	Jones	28	Westinghouse	555
Ford	A	Dyneto	871	Jordan	F	Bijur	558
Ford	Standard Ignition		450	Kankakee	7-N	Delco	561
Ford	Standard Starting & Lighting		451	King	H	Westinghouse	566
Ford		Atwater-Kent	452	Kissell-Kar	Custom Built	Remy	573
Ford	Single Unit	Disco	453	Kline-Kar	6-55	Westinghouse	574
Ford	Two Unit	Disco	454	Knox			
Ford	Late 2 Unit	Disco	455	Tractor	All Models	Bijur	897
Ford	X	Disco	456	Lexington	6-R	Westinghouse	581
Ford	Single Unit	Gray & Davis	457	Liberty	10-B	Wagner	584
Ford	Two Unit	Gray & Davis	458	Locomobile	38-48	Westinghouse	588
Ford		Heinze-Springfield	459	Maibohm	B	Wagner	591
Ford		Splitdorf	460	Marmon	34	Bijur	596
Ford		North East	461	Maxwell	1919	Simms-Huff	601
Ford		North East	462	Maxwell One Ton Truck		Autolite	604
Ford		Westinghouse	463	McFarlan	McFarlan Six	Westinghouse	607
Franklin	Series 9	Dyneto	471	McLaughlin	D-34	Delco	908
Franklin	Series 9	Dyneto	472	Mercer	22-74, -4	Westinghouse	613
G.M.C.				Meteor	75-80	Delco	614
Truck	16, 25, 26, 30, 31	Delco	477	Metz	Master Six	Autolite	622
Grant	G-6	Wagner	490	Mich. Hearse & Motors Co.		Delco	624

Table of Contents—1919 Models—Continued

Car	Model	System	Page	Car	Model	System	Page
Mitchell	D-40	Splitdorf	628	Pierce			
Mitchell	E	Splitdorf	629	Arrow	48-HP	Westinghouse	729
Mitchell	E-40, E-42	Remy	912	Pilot	6-45	Delco	730
Moline-				Premier	B-6B-6C	Delco	734
Knight	MK-40-50, G, L	Wagner	633	Reo	T-6, U-6	North East	751
Moline				Reo Truck	F	Remy	752
Tractor	D	Remy	915	Republic			
Moon	6-45, 6-65	Delco	641	Truck	8, 9	Remy	945
Nash	681, 682-3-4-5-6-7	Delco	645	Riddle Coach & Hearse		Delco	753
Nash	681, 2-3-4-5-6-7	Wagner	646	Roamer	D475, C654	Bijur	757
Nash Truck	2018-3018	Wagner	644	Saxon	Y-18-T	Wagner	765
National	BB	Westinghouse	654	Sayers &			
National	BB-AL	Westinghouse	655	Scovill	1919	Delco	768
Oakland	34-B	Remy	671	Sayers &			
Old Hickory Truck		Dyneto	673	Scovill	Touring	Delco	769
Oldsmobile	37-A	Delco	679	Sayers &			
Oldsmobile	45-B	Delco	681	Scovill	7-R-W	Delco	770
Oldsmobile	37	Remy	927	Scripps-			
Overland	Four	Autolite	697	Booth	G	Remy	773
Owen-				Scripps-			
Magnetic	W-42	Owen-Magnetic	699	Booth	6-30	Remy	774
Packard	3-25, 3-35	Bijur	706	Seagrave	F-4, F-6	Delco	776
Packard				Seneca	D-H	Allis-Chalmers	777
Truck	D-E	Bijur	707	Spacke	S-19	Atwater-Kent	779
Paige	6-51, 6-55	Remy	712	Standard	G-H	Westinghouse	783
Paterson	6-45, 6-45R	Delco	717	Stanley			
Peerless	4-FF	Autolite	724	Steamer	735	Remy	786
Piedmont	4-30	Dyneto	937	Stearns	1919	Remy	788
Piedmont	5-40	Remy	938	Stephens	80	Autolite	791
Pierce				Studebaker	EG-EH-SH	Wagner	796
Arrow	48	Westinghouse	728	Stutz	S-G-H	Remy	799

Table of Contents—1919 Models—Continued

Car	Model	System	Page	Car	Model	System	Page
Templar . . .	445	Remy	801	Westcott . . .	A-38, C-38	Delco	817
Velie	38	Remy	808	Wlilys-			
Westcott . . .	Series 19	Delco	815	Knight . . .	1919	Autolite	826
Westcott . . .	C-38, C-48	Delco	816	Winton	22	Bijur	831

1920 Models

Car	Model	System	Page	Car	Model	System	Page
Allen	43	Autolite	308	Columbia . . .	6	Autolite	394
Allen	43	Autolite	834	Common-			
Allen	43-Mag.	Westinghouse	836	wealth . . .	4-40.	Dyneto	397
Allen	43-Coil	Westinghouse	835	Commerce			
American . . .	B	Westinghouse	833	Truck	E	Remy	853
American . . .	C	Gray & Davis	837	Crow-			
Anderson . . .	8, Ser. 30-40	Remy	838	Elkhart . . .	H, K-32-4-6-42-4-6	Dyneto	400
Apperson . . .	1920	Bijur	319	Cunningham . .	V, 4th Series	Delco	855
Atlas	¾ Ton Truck	Remy	840	Daniels	D-19	Delco	407
Auburn	6-39	Remy	843	Davis	7-N	Delco	412
Avery One				Dixie Flyer . .	19-W	Dyneto	417
Ton Truck . .	All Models	Westinghouse	844	Dodge	275255 and up	North East	421
Bour-Davis . .	20	Remy	326	Dorris	6-80	Westinghouse	428
Brewster . . .	91	U. S. L.	846	Dorris Truck . .	K-T	Westinghouse	429
Briscoe	34	Autolite	332	Dort	39, 39-L, Export	Westinghouse	862
Buick	K-44-5-6-7-9-50	Delco	341	Dort	10-11-10 C-15-15 S.	Westinghouse	435
Cadillac	59	Delco	350	Duplex			
Case	V-20	Westinghouse	359	Truck	Model A	Westinghouse	864
Chalmers . . .	1920	Westinghouse	367	Dupont	A	Westinghouse	865
Chandler	6	Westinghouse	373	Elgin	K	Wagner	868
Chevrolet . . .	D	Autolite	378	Elgin	K-1	Wagner	869
Chevrolet . . .	F-B	Autolite	379	Elkhart	G-H-K-D	Delco	439
Chevrolet . . .	490	Autolite	851	Essex	A	Delco	449
Cleveland . . .	Six	Gray & Davis	383	Ferris	C-20	Leece-Neville	870
Cole	870	Delco	392	Ford	A	Dyneto	871

Table of Contents—1920 Models—Continued

Car	Model	System	Page	Car	Model	System	Page
Ford	Standard Ignition		450	Hupmobile	R	Bijur & Westing-	
Ford	Standard Starting & Lighting		451			house	531
Ford		Atwater-Kent	452	Jackson	53	Autolite	549
Ford	Single Unit	Disco	453	Jones	28-B-E-G	Westinghouse	556
Ford	Early 2 Unit	Disco	454	Jordan	M	Delco	560
Ford	Late 2 Unit	Disco	455	Jordan	F-Series 2	Delco	559
Ford	X	Disco	456	Kelsey	All Models	Bijur	891
Ford	Single Unit	Gray & Davis	457	Kenworthy	6-55	Bijur	892
Ford	Two Unit	Gray & Davis	458	King	H	Westinghouse	566
Ford		Heinze-Springfield	459	Kissel-Kar	Custom Built	Remy	573
Ford		North East	460	Kline-Kar	6-55	Westinghouse	574
Ford		North East	461	Knox			
Ford		Splitdorf	462	Tractor	All Models	Bijur	897
Ford		Westinghouse	463	Leach	20	Delco	576
Franklin	Series 9	Dyneto	471	Lexington	S	Gray & Davis	582
Franklin	Series 9	Dyneto	472	Liberty	10-B	Wagner	584
F. W. D.	Truck	North East	876	Lincoln	All Models	Delco	899
Gardner	G	Westinghouse	474	Locomobile	38-48	Westinghouse	588
G.M.C.				Maibohm	B	Wagner	592
Truck	16-25-30	Delco	477	Marmon	34	Delco	597
Grant	H	Wagner	491	Maxwell	Two Unit	Simms-Huff	603
Grant	HY, HX	Bijur	878	Maxwell	Single Unit	Simms-Huff	602
Grant Truck	9, 10, 11, 15, 16, 17	Remy	877	Maxwell One Ton Truck		Autolite	604
Hanson	54	Delco	493	McFarlan	127	Dyneto	608
Harroun	1920	Remy	497	McFarlan	X	Westinghouse	905
Haynes	47-48	Leece-Neville	508	McLaughlin	K-62, K-63	Delco	909
Haynes	Details of Panel			Mercer	Series 5	Westinghouse	910
	Switch		509	Meteor	22-74-4	Westinghouse	613
Holmes	3	12-volt Dyneto	518	Meteor	9-N	Delco	617
Hudson	Super Six	Delco	887	Mich. Hearse & Motors Co.		Delco	625
Hudson	Super Six	Delco	525	Mitchell	E	Splitdorf	629

Table of Contents—1920 Models—Continued

Car	Model	System	Page	Car	Model	System	Page
Mitchell	...F-40	...Remy	913	Pilot	...6-45	...Delco	731
Moline-				Premier	...6-D	...Delco	735
Knight	...J-R	...Wagner	634	Reo	...C, F, 20, & Truck	...North East	943
Moline				Reo	...T-6, U-6	...North East	751
Tractor	...D	...Remy	915	Reo Truck	...F	...Remy	752
Monroe	...All Models	...Autolite	916	Republic			
Moon	...9-N	...Delco	642	Truck	...8, 9	...Remy	945
Nash	...681-2-4-5-6-7	...Wagner	647	Roamer	...D-475, C-654	...Bijur	757
Nash	...Four-I	...Wagner	918	Sayers &			
National	...BB	...Westinghouse	655	Scovill	...7RW-9N	...Delco	770
Northway	...Truck	...Wagner	922	Scripps-			
Oakland	...34-C-Coil	...Remy	924	Booth	...B	...Remy	775
Oakland	...34-C-TC-RD	...Remy	671	Spacke	...20	...Atwater-Kent	779
Oakland	...34-C-TC-RD Mag	...Remy	672	Standard	...I	...Westinghouse	784
Oldsmobile	...45-B	...Delco	681	Stanley	...		
Oshkosh	...4-Wheel Drive Trck	...North East	928	Steamer	...735	...Remy	786
Overland	...Four	...Autolite	697	Stearns-			
Packard	...3-25, 3-35	...Bijur	706	Knight	...S-K-L-4	...Westinghouse	952
Packard	...Fuelizer Wiring-			Stephens	...80	...Autolite	792
Twin Six	...	...Bijur	931	Studebaker	...EU-EG-Light 6	...Wagner	797
Paige	...6-42, 6-55	...Gray & Davis	713	Studebaker	...1920	...Remy	955
Pan Amer-				Studebaker	...Light-Six	...Wagner	956
ican	...All Models	...Westinghouse	934	Stutz	...S-G-H	...Remy	799
Paterson	...6-47	...Delco	718	Templar	...1920	...Bijur	802
Peerless	...56-FF-6	...Autolite	725	Towmotor			
Piedmont	...4-30	...Dyneto	937	Co.	...1920	...Delco	803
Piedmont	...6-40	...Remy	938	Velie	...34	...Westinghouse	961
Pierce-Arrow				Velie	...48-A	...Bijur	962
Truck	...X-5, W-2, R-10	...Delco	940	Velie	...48	...Bijur	809
Pierce-				Westcott	...C-38, C-48	...Delco	816
Arrow	...38	...Westinghouse	729	Westcott	...A-38, C-38	...Delco	817

Table of Contents—1920 Models—Continued

Car	Model	System	Page
White Truck.	1920	North East	964
Willys-Knight	.. 1920	Autolite	826

Car	Model	System	Page
Winton	.... 25	Bijur	832
Winton	.... Late Model 25	Bijur	966

1921 Models

Car	Model	System	Page
Allen	.... 43-Mag.	Westinghouse	835
Allen	.... 43-Coil	Westinghouse	836
American	.. C	Gray & Davis	837
Anderson	.. 8, Ser. 30-40	Remy	838
Apperson	.. 8-21	Bijur	839
Auburn	.... 6-39	Remy	843
Avery One Ton Truck	.....	Westinghouse	844
Bethlehem Truck	.....	Gray & Davis	845
Brewster	.... 91	U. S. L.	846
Brook	.... 1921	Atwater-Kent	847
Buick	.... 45	Delco	341
Cadillac	.... 59	Delco	350
Case	.... V	Westinghouse	848
Chalmers	.... 35-B,-C	Westinghouse	367
Chandler	.... 1921	Gray & Davis	849
Chevrolet	.. F. B.	Autolite	850
Chevrolet	.. 490	Autolite	851
Cleveland	.. 41	Gray & Davis	852
Commerce Truck	.... E	Remy	853
Cole	.... Areo Eight	Delco	392
Crow-Elkhart	.. 65	Dyneto	854

Car	Model	System	Page
Cunningham	V, 4th Series	Delco	855
Daniels	.... D-19	Delco	856
Davis	.... 51	Delco	412
Dixie-Flyer	.. All Models	Dyneto	859
Dodge	.... 1921	North East	860
Dorris	.... 6-80	Westinghouse	861
Dort	.... 10, 12-A, 12-AC, 15, 17-A, 17-AC	Westinghouse	863
Dort	.... 30, 39L. Export	Westinghouse	862
Duplex Truck	.... A	Westinghouse	864
Dupont	.... A	Westinghouse	865
Elgin	.... K-1	Wagner	869
Elcar	.... 20 K-4, 7-R	Delco	439
Essex	.... A	Delco	449
Ferris	.... C-21	Leece-Neville	870
Ford	.... Standard Ignition		450
Ford	.... Standard Starting & Lighting		451
Ford	....	Atwater-Kent	452
Ford	.... Single Unit	Disco	453
Ford	.... Two Unit (early)	Disco	454
Ford	.... Two Unit (late)	Disco	455
Ford	.... X	Disco	456
Ford	.... A	Dyneto	871
Ford	.... Single Unit	Gray & Davis	457

Table of Contents—1921 Models—Continued

Car	Model	System	Page	Car	Model	System	Page
Ford	Two Unit	Gray & Davis	458	Lincoln	All Models	Delco	899
Ford	Heinze-Springfield	Heinze-Springfield	459	Locomobile	7-48	Westinghouse	901
Ford	North East	North East	460	Marmon	34	Delco	902
Ford	North East	North East	461	Maxwell	Two Unit	Simms-Huff	904
Ford		Splitdorf	462	McFarlan	X	Westinghouse	905
Ford		Westinghouse	463	McFarlan	TV	Westinghouse	906
Franklin	9-B	Dyneto	875	McLaughlin	K-62, K-63	Remy	909
F. W. D.	Truck	North East	876	Mercer	Series 5	Westinghouse	910
Gardner	G	Westinghouse	879	Metz	Master-Six	Westinghouse	911
Grant	HX, HY	Bijur	878	Mitchell	F-40	Remy	913
Grant Truck	9, 10, 11, 15, 16, 17	Remy	877	Mitchell	E	Splitdorf	629
Handley-Knight	A	Autolite	880	Monroe	S-9	Autolite	916
Hanson	56-60	Delco	881	Nash	Six	Wagner	917
Haynes	47, 48	Leece-Neville	882	Nash	Four-I	Wagner	918
Haynes	Panel Electrical Switch		883	Nash	Truck	Autolite	919
Haynes	50	Leece-Neville	884	National	Sextette	Westinghouse	920
H. C. S.	3	Delco	885	Northway	Truck	Wagner	922
Holmes	4, 5, 12-volt	Dyneto	886	Oakland	34-C-Mag.	Remy	923
Hudson	Super Six, (U)	Delco	887	Oakland	34-C*Coil	Remy	924
Jackson	6-38	Autolite	888	Oldsmobile	46	Delco	925
Jordan	F	Delco	889	Oldsmobile	43-A, Truck	Remy	926
Jordan	M	Delco	890	Oshkosh	4-Wheel Drive Trck.	North East	928
Kelsey	All Models	Bijur	891	Overland	4	Autolite	929
Kenworthy	6-55	Bijur	892	Packard	Single Six	Atwater-Kent	930
Kline-Kar	6-55-K	Westinghouse	893	Packard	Twin Six	Bijur	931
King	H	Westinghouse	894	Pan	A	Autolite	933
Kissel-Kar	Custom Built Six	Remy	895	Pan-Ameri-			
Knox				can	All	Westinghouse	934
Tractor	All Models	Bijur	897	Paterson	6-50	Delco	935
Liberty	Six	Wagner	898	Peerless	Series 6, Model 56	Autolite	936
				Piedmont	4-30	Dyneto	937

Table of Contents—1921 Models—Continued

Car	Model	System	Page	Car	Model	System	Page
Piedmont	6-40	Remy	938	Stanley-			
Pierce-				Steamer	735	Remy	951
Arrow	38	Delco	939	Stearns-			
Pierce-Arrow				Knight	SKI-4	Westinghouse	952
Truck	X-5, W-2, R-10	Delco	940	Stephens	Salient-Six	Autolite	953
Premier	6- D	Delco	941	Studebaker	Big Six	Wagner	954
Reo	T-6	North East	942	Studebaker	1921 Models-Remy	Remy	955
Reo	6, F-21, & Truck	North East	943	Studebaker	Light Six	Wagner	956
R. & V.				Stutz	Series K	Remy	955
Knight	J. R.	Wagner	944	Templar	4-45	Bijur	959
Republic				Velie	34	Westinghouse	961
Truck	10-E	Delco	946	Velie	48	Bijur	960
Roamer	4-75-E	Westinghouse	947	Velie	48-A	Bijur	962
Roamer	6-54-E	Westinghouse	948	Westcott	C-48	Delco	963
Sayers	Six	Delco	949	White Truck, 1921		North East	964
Scripps-				Willys-			
Booth	B-Series	Remy	950	Knight	20	Autolite	965
				Winton	Model 25	Bijur	966

Information

The Principles of Electricity and Magnetism

ELECTRICITY and magnetism, though different in many ways, are similar in that both are invisible, both are easy to use once the principles are understood, and each is controlled by a few simple laws. Their relationship is very important and interesting as will be seen.

MAGNETISM is the property some bodies have of attracting or repelling iron or steel. A body possessing this property is called a **MAGNET**. A piece of iron or steel when placed in a magnetic field is, itself, a magnet.

Magnets are divided into two classes, natural and artificial. A natural magnet is a body that possesses magnetism when found in the earth, such as loadstones. Artificial magnets are magnets that are made from some magnetic substances, as iron and steel. Such magnets are divided into two classes, namely, permanent and temporary. A permanent magnet is made of hardened steel or chilled iron, and retains its magnetism indefinitely. A temporary magnet is made of soft iron or annealed steel, and loses its magnetism as soon as the magnetizing force is removed.

Magnetism is represented by magnetic lines of force which flow out of the north pole of a magnet into its south pole. These lines are closed loops, and flow from the north pole of a magnet to the south pole outside the

magnet, while they flow from the south to the north pole inside the magnet.

Certain parts of a magnet seem to possess the power of attracting iron or steel. These parts are called poles, and are located at the ends of the magnet, a north pole at one end and a south pole at the other end.

A north pole of a magnet is that end out of which the lines of force flow, while a south pole is that end into which the lines of force flow.

If the north pole of one magnet is brought near the south pole of another magnet, they will attract each other.

If the south pole is brought near the south pole of another magnet, or, if the north pole is brought near the north pole of another magnet, they will repel each other. Experiment:—Suspend one magnet by its center, and bring the different ends of another magnet near either end of the suspended magnet; note results.

ELECTRO-MAGNET—If a coil of wire is wound around a bar of iron or soft steel, and a current of electricity is passed through the wire, the bar will instantly become magnetized, and will possess the same properties as that of a bar magnet, that is, it will have a north and a south pole and similarly attract iron or steel. As soon as the current ceases to flow it will just as quickly lose its magnetism. This is called an Electro-Magnet. The wire should be wound upon the bar or core, continuously in one direction. The polarity of the magnet

will depend upon the direction in which the current passes through the wire.

To determine the polarity of an electro-magnet, grasp the coil in the right hand, so that the fingers lie in the direction of the current in the coil, the thumb will then point to the north pole. The polarity of any magnet can readily be found by bringing a compass up to the end of it. If it is the north pole of the magnet, the south pole of the compass will be attracted; or, if it is the south pole of the magnet, then the north pole of the compass will be attracted.

The strength of an electro-magnet depends upon the number of turns in the windings of the magnetizing coil, strength of the current flowing, and the quality of the path through which the magnetic flux passes. A coil with a soft iron core will be a much stronger magnet than one with a core of any other material, because the soft iron provides an easier path for the magnetic lines of force. Annealed wrought iron is best for the core of an electro-magnet, annealed cast iron next and soft cast iron third.

A magnet will attract iron and steel because iron and steel are better conductors of magnetism than air; so that when a piece of either of these materials is brought within the range of a field of a magnet, the lines of force will crowd into the piece instead of going through the air. The piece will become a magnet, a south pole will appear where the lines enter and a north pole where the lines leave the piece. If the piece is brought up to the north pole of the magnet, the pole set up in the end of the piece nearest the magnet will be a south pole, and

an attraction will take place between the unlike poles. If the piece is brought up to the south pole of the magnet, a north pole is induced in the rear end and an attraction takes place as before.

SUCTION COIL—A coil of wire has a north pole and a south pole when a current is passed through it, exactly the same as a bar magnet. A piece of iron or steel on being brought up to the end of the coil, will become a magnet by induction, and being drawn into it, stopping near the center of the coil where the forces of attraction from the two poles balance each other. This iron plunger is called the core.

MAGNETIC SATURATION—There is a limit to the magnetic flux that can be forced through iron and steel. Beyond a certain degree of magnetization called the working point, the magnetic resistance of iron or steel increases so rapidly that a considerable increase of magnetizing power produces only a small amount of magnetism. The core of the magnet is then said to be nearing saturation. Finally a point is reached where an increase in magnetizing power produces no appreciable increase in magnetism. The core is then said to be saturated.

Any conductor carrying an electric current has a magnetic field whirling about it, the intensity of which is proportional to the strength of current. The lines of force of this magnetic field form magnetic circles about the conductor. The direction of these lines depends upon which direction the current is flowing.

RIGHT HAND THUMB RULE FOR STRAIGHT WIRE—If we grasp the wire with the right hand, so

that the thumb points in the direction of the current, the fingers will point in the direction of the field about the wire.

Ohm's Law and the Electric Circuit

THE ELECTRIC CIRCUIT—From what little we know about the real nature of electricity, we are certain that it is not a fluid. Yet the flow of an electric current through a wire is so much like the flow of water through a pipe, that the comparison is very helpful.

AMPERE (Current)—A current of water flowing in a pipe is measured in gallons per second or cubic feet per second. An electric current is measured in Coulombs per second. For convenience the phrase "Coulombs per second" has been supplemented by the word **AMPERE**. Thus we say the amount of current flowing is so many amperes.

VOLT (Pressure)—The quantity of water flowing through a pipe of given size depends largely on the pressure. The amount of electricity flowing through a circuit of a given size and resistance, or the strength of the current in amperes, depends in part upon the pressure in volts. Thus the amount of current flowing is measured in amperes and the pressure causing it to flow is measured in volts.

OHM (Resistance)—There is something in addition to the pressure that determines the amount of current both of water and electricity. This something is the resistance of the pipes in the case of water, and the resistance of the wires in the case of electricity. The greater the resistance, the less current under the same

pressure. There is no unit for the flow of water in pipes. The electric unit of resistance is the ohm. A wire has a resistance of one ohm, when a pressure of one volt will force a current of one ampere through it. If the resistance were two ohms, or twice as great, the current would be one-half as great, or one-half ampere under the same pressure of one volt.

AN ELECTRIC CURRENT ALWAYS FLOWS FROM + (Positive) to — (Negative).

Ohm's Law

The relation between current (amperes), pressure (volts), and resistance (ohms) is stated in Ohm's Law, which is:—

The electric current through a conductor equals the pressure divided by the resistance, or,

$$\text{Amperes} = \frac{\text{Volts}}{\text{Ohms}}$$

$$\text{in symbols: } A = \frac{V}{R}$$

Where A = Current in Amperes.

V = Pressure in Volts.

R = Resistance in Ohms.

Ohm's law in its three forms is:

$$A = \frac{V}{R} \quad \text{Current equals voltage divided by resistance.}$$

$$V = A \times R \quad \text{Voltage equals current times resistance.}$$

$$R = \frac{V}{A} \quad \text{Resistance equals voltage divided by current.}$$

Application of Ohm's Law: Ohm's law can be applied to an electric circuit as a whole, or it can be applied to

any part of it. The following two rules will be of assistance in applying Ohm's law:

(1) The current in the entire circuit, equals the voltage across the entire circuit divided by the resistance of the entire circuit.

(2) The current in a certain part of a circuit, equals the voltage across that part, divided by the resistance of that part.

The voltage over a certain resistance, such as a lamp, or other apparatus, or over a section of a line wire, is called the drop through that resistance or over that section of conductor, and is found by direct application of Ohm's Law, $V=AR$. For example: the drop in two line wires, which have a combined resistance of two Ohms, and carry a current of 10 amperes is: $V=AR$ or $V=10 \times 2 = 20$ volts drop; subtract this drop from the voltage of generator, the result is the voltage at the motor.

Power of Measurement

USE OF AMMETER AND VOLTMETER—The rule for the use of Ammeter and Voltmeter is: Place ammeter in series with the apparatus through which you wish to measure the current, or, place the voltmeter in parallel with the apparatus across which you wish to measure the voltage. Put (+) positive of either instrument on the positive side of the line. If you wish to measure the current in amperes flowing through a lamp, motor, or other apparatus, open the circuit and place the ammeter in series with the apparatus; if you want to measure the voltage across a piece of apparatus, place a voltmeter in parallel with the apparatus.

Two Systems of Wiring

INSULATED—In this system the current is carried by insulated conductors, in both directions, to and from the apparatus from which it supplies.

GROUNDED—In the grounded system, no return wires are provided, as the engine frame, car frame, and other metal parts are used for the return circuit.

Head Light Dimming

There are three methods of head light dimming, namely:

SERIES MULTIPLE—This method consists of switching facilities for connecting the head lights in multiple for bright head lights, and in series for dim headlights.

AUXILIARY—This method consists of two sets of bulbs in the head lamps, a large and a small one, the large bulb for the bright head light and the small bulb, or auxiliary, for the dim light.

SERIES RESISTANCE—This method makes use of a dimming resistance which can be switched into the circuit when dim lights are desired.

Reading of Diagrams

The wiring of any automobile may be traced directly from the car itself, but, with the aid of a wiring diagram you have a full knowledge of the complete circuit, which therefore can be traced or followed much more easily and can be understood more readily. Before attempting the use of these diagrams, the reader should familiarize him-

self with the different electrical symbols. These symbols appear on page one and should be carefully studied. The polarity of batteries is determined by these symbols; a grounded system is determined by the ground symbol, etc. The different units that appear on a diagram are always named, such as batteries, lights, horns, generators, switches, etc., but soon the reader will recognize these units without referring to their titles. In all lights the filament is shown by a fine zig-zag line. In the case of the head lights, sometimes they will be found to contain two bulbs; the larger zig-zag line represents the large head light and the smaller one the dim head lights.

It is difficult to determine from the actual wires on an automobile in just which of two or more wires, at a junction, a current is flowing, however, this can be easily determined by using one of these diagrams and remembering that a current will flow only where there is a closed circuit; for instance, refer to page 412 which happens to be the 1920 Davis Car. In this diagram assume that all switches are open, now there is no closed circuit with the battery, except the connection between the battery and the generator; this therefore is the only closed circuit. (There is a means of connecting and disconnecting the generator and the battery. This is provided in the majority of cases, to prevent the battery from discharging through the generator, when the voltage of the generator is lower than the voltage of the battery; the means in this case is called the cut-out and is mounted on the generator.) Consequently when we come to the junction of the two wires at terminal No. 6 of the lighting and ignition switch, we know that no current is passing to

any other terminal at this switch, because all contacts are open. Likewise, at the starting switch, there is no current passing through the wire leading to the horn because the horn switch is open.

The ignition circuit is not shown in detail, but this circuit is closed by making a contact, by operating the ignition switch, between terminals 5 and 6 of this switch. The complete ignition circuit may be traced as follows: from the battery to the starting switch, through ammeter, to No. 6 of switch, through switch to No. 5, to ignition coil, through primary winding, to timing contacts in distributor, to ground of distributor, to battery negative which is grounded.

The starting circuit may be traced in a similar manner, starting at battery, to starting switch, which is closed by pressure of foot on starting pedal, to starting motor, to ground, to negative of battery which is grounded.

The electrical circuit for the auxiliary or small head lights may be traced in a similar manner, as follows: starting with battery positive to starting switch, through ammeter, to terminal No. 6 on lighting switch, operation of switch closes, by contact, terminal No. 6 with No. 4, from No. 4 of switch to junction point of both small head lights. Here the circuit divides; part of the circuit goes to the right head light and part goes to the left head light; in both cases the current will pass through the bulbs, to the ground of both head lamps, to the negative of battery which is grounded.

In a like manner the horn circuit can be determined by starting from the battery, to starting switch, to horn, through horn, to horn button; contact is made by press-

ing down the horn button; current passes to ground to the negative of the battery which is grounded.

The tail light, large head light, and dome light can be traced in a similar manner just as easy.

An electrical circuit may be compared to a circle—no beginning—no end. It is very essential that you be able to trace the various circuits if you want to understand their operation, and understand the testing of circuits in order to locate, readily, the causes of the trouble that may arise—remember, no current is used up, for just as much current will return to the generator, or to the battery, as leaves it.

The purpose of these wiring diagrams is to show the proper connections of the different units to make the system complete. Wiring diagrams should not be a puzzle to the inexperienced man, for with a little imagination and reasoning, he will in a short time have no trouble to read any of these diagrams; he will gain a great deal if he would devote some of his spare time to the studying of the different wiring systems of the various cars.

Testing of Circuits

In studying or reading a diagram, the reader must convince himself that there are three things associated with every electrical circuit, namely VOLTAGE, RESISTANCE, and AMPERES or the amount of current. The rate at which the electrical current moves, in amperes, is equal to the effective electrical pressure, in volts acting in the circuit, divided by the resistance in Ohms; for an example, if a lamp circuit has a resistance of three Ohms, and the pressure is 6 volts, a current equal to 6 divided

by 3, or 2 amperes, will be produced when the circuit is closed. By the effective pressure we mean the difference of the sum of the pressure in one direction of an electrical circuit, and the pressure acting in the opposite direction. Thus if a generator having a pressure of 7 volts is charging a battery whose pressure is 6.5 volts, the effective pressure will be, 7 less 6.5 volts or 0.5. (Effective Pressure.)

Before an electrical current can have an effective pressure the circuit must be closed. In all circuits in which no current flows, the difficulty is due to there being no electrical pressure in the circuit, or maybe, the circuit is not closed. As an example: with the head lights turned "on" the ammeter still reads "zero" current; you should immediately see the trouble; perhaps the circuit is open, perhaps there is no electrical pressure; again, if all the other lights operate normally, you can readily know that the trouble is not a lack of voltage, but positively must be an open circuit; an inspection of the diagram on page 412 will show that the lights use the circuit from the battery to No. 6 on the lighting switch, the trouble then will positively be in the switch, or, the circuit from No. 2 on switch to the head lamps; the circuit must be "open." Use a low voltage test lamp, whose voltage is the same as the head lamps to locate this "open" in the circuit, in all possibilities it is either a loose connection at No. 2 on switch, or a break in the wire between No. 2, on switch, and the junction point where this wire meets the wire connecting the head lights; either trouble is easily remedied.

Follow this same line of reasoning to locate trouble on

any electric circuit, and all difficulties will be just as easily located and repaired by using one of these diagrams. The importance attached to these wiring diagrams in locating trouble should readily be appreciated; therefore you cannot become too familiar with these diagrams, as they cover all systems.

TEST POINTS—A very useful device for locating grounds, short-circuits, and open circuits on the different lighting and ignition systems consists of an ordinary 110-volt drop light with two insulated leads cut into one side of the circuit, as shown on page three. Upon examination it will be found that when these two points are brought together current will pass through the lamp and cause it to light, therefore if the two points are placed on different points of a starting and lighting system and the lamp lights, it will indicate that there is a circuit between these two terminals; if the lamp does not light, there is no circuit between them.

The use of these test points will now be illustrated in connection with a typical 1916 Delco System, of the single unit type having third brush excitation. A wiring diagram of this system appears on page 814 in a Westcott Car. An inspection of this diagram will show that certain portions of the circuit are normally grounded to the frame of the car. For instance, the negative battery terminal, one terminal of each lamp, one motor and one generator brush, one timer contact, one terminal of the horn push button, and one terminal of the condenser in the coil are grounded. Before testing the wiring for grounds, therefore, it will be necessary to remove these normal grounds. This is done (in the order in which they are

mentioned above) by disconnecting the negative battery lead, and removing all the lamps, placing a piece of cardboard between each motor and each generator brush (including the third brush) and the commutator on which it rides; disconnecting the leads from the horn button and from the distributor and raising the base of the ignition coil so that it is insulated from the top cover of the motor generator.

One of the test points is then placed on the frame of the car and the other point on the negative terminal of the battery. If the lamp lights, it will indicate a ground on the system somewhere on the switch, or in the motor windings (providing all switch buttons are pushed in). Then, with one test point still grounded on the frame of the car, touch with the other point the different terminals of the combination switch. If the lamp lights up during this test it will indicate; a ground on that particular circuit, which then can be remedied without any serious difficulty.

To test for short-circuits between two wires that are normally insulated from each other, use this testing device, and if the lamp lights up it will indicate a short-circuit between these two wires which then can be carefully inspected to locate the exact position of the short-circuit. If the lamp fails to light up, it will prove that there is no short-circuit between these wires. The same method can be used in testing any two parts of the circuit which are supposed to be insulated from each other.

If it is suspected that a wire or lead is broken, it is easy to test it by placing a test point on each of the leads. If the lamp lights up it will indicate that there is a com-

plete circuit through the wire. On the other hand, if the light fails to light up it will indicate a break in the circuit, which should be repaired immediately.

This method of locating grounds, short-circuits, open-circuits, etc., is far superior to the use of a buzzer, bell or magneto, and for this reason is recommended where a 110-volt circuit is available.

Storage Batteries

COMPOSITION OF STORAGE BATTERIES—

Storage batteries for automobiles are composed of rubber jars, lead plates, plate separators, and electrolyte.

PLATES—The plates are composed of lead cast into grids, with a composition of lead oxide pasted into them. This composition is called the active material, and sets hard like cement when dry, remaining so throughout the life of the battery. The plates are placed in the electrolyte and a current of electricity passed through them for a few days. This causes a chemical action to take place, which converts the active material of the positive plate into brown peroxide of lead, and that of the negative plate into a spongy metallic lead.

As the battery is charged lead peroxide forms on the positive plate, and spongy metallic lead on the negative; as the battery is discharged lead sulphate forms on both plates.

Lead sulphate is bulky and when formed in excess, or too rapidly, it will buckle the plates. Therefore rapid or excessive discharging is to be avoided.

JARS—The jars are made of rubber or glass to prevent the acid from acting upon them. A cell comprises

a jar with plates and electrolyte. The voltage of a cell is about 2.2 volts, regardless of the size or number of plates in it. A three cell battery consists of three cells connected in series, and has the voltage of approximately 6.6 volts. The plates do not extend to the bottom of the jar, a space being left for sediment that will accumulate as the battery wears.

PLATE SEPARATORS—These are made of either wood or hard rubber, and are used to separate the plates of opposite polarity, also to prevent foreign substance from forming short-circuits in the cells. The plates are placed alternately in the cells, a positive one and then a negative one, all of the positive plates being connected in parallel, and the negative ones in parallel also. To distinguish the positive from the negative, it is merely necessary to remember that there is one more negative plate than positive, also that the color of the positive plates is reddish brown, of the negative plates, a dark gray. The capacity of a battery in AMPERE HOURS depends upon the size of the plates and the number of plates in parallel.

THE ELECTROLYTE—The electrolyte is made by mixing pure sulphuric acid with water in definite proportion.

GRAVITY—The gravity of water is 1.000 and that of pure sulphuric acid about 1.840. If two parts of acid were mixed with five parts of water, the gravity of the resulting electrolyte will be about 1.300. The acid should be added to the water when the electrolyte is being made, and NOT the water added to the acid. The gravity of an electrolyte should be taken when it is cool. PURE distilled water should be used for storage batteries.

TRUE GRAVITY—The true gravity of the solution in a storage battery can only be ascertained by charging the battery until the gravity ceases to rise for a period of at least two hours. When a battery is being charged, the gravity continues to rise until it is fully charged. As a battery is discharged, its gravity falls.

A FULLY DISCHARGED BATTERY will test about 1.150. A battery should not be used when the gravity is this low, but should be charged at once. If the gravity of the battery is low, distilled water should be added until the plates are covered from $\frac{3}{8}$ to $\frac{1}{2}$ of an inch and the battery given a charge. Charge until the gravity ceases to rise for two hours; the gravity should then be between 1.275 and 1.300.

A BATTERY may be practically discharged and still test 1.300 if it has been doped (too much acid). To determine the actual working condition, allow the battery to discharge at, say, 100 amperes and measure the voltage of each cell while discharging. If this voltage falls below 1.6 volts the cell is bad, or, nearly discharged.

THE CHARGE RATE depends upon the size of the battery and state of charge. If the gravity of a battery is below 1.150, or over 1.250, it should be charged at about 5% of the rated capacity, that is, a 100 ampere hour battery should be charged at 5 amperes. If the gravity of the battery is between 1.150 and 1.250, charge at 10% of the rated capacity, or in the case of a 100 ampere hour battery, at a 10 ampere rate.

ADDING NEW ELECTROLYTE—Pure acid should never be added to a battery, neither should new electrolyte be added when a battery is in a discharged condition.

The gravity of a battery being low, is not a sure sign that it needs new electrolyte; it may be in a discharged condition. The cells should be filled to the proper height with water and the battery charged until the gravity ceases to rise for two hours. If the gravity fails to rise to 1.275, some of the solution should be taken out, and replaced with new 1.300 electrolyte.

THE VOLTAGE OF A CELL while charging and nearing a fully-charged condition will rise to approximately 2.5 volts, but will go back to approximately 2.2 volts when the charging ceases.

When a storage battery is being charged, energy is being stored up in it in a chemical form. The energy is returned in an electrical form when the battery is discharged.

When two parts of sulphuric acid are mixed with five parts of water, the gravity of the solution would be 1.240 if there was no evaporation. Enough water evaporates, however, to make the gravity of the solution 1.300 when cooled. Acid does not evaporate.

ADDING ELECTROLYTE TO REPLACE EVAPORATION IS WRONG—If this is done, the battery may have a gravity of 1.300 when not fully charged. To make sure of the true gravity, keep the battery on charge until the gravity ceases to rise for two hours, and the true gravity will then be obtained.

ADDING WATER—Pure distilled water should be added to a battery in use at least twice a month. In cold weather, never add water to a battery and let it stand in a cold place, unless it has been given a charge after the water was added. Water is lighter than electrolyte, and

will remain on top and freeze if it is not mixed with the electrolyte.

TERMINALS—The terminals of a battery should be kept tight, and free from corrosion. If the terminals begin to corrode, the corrosion should be removed at once. Take all bolts, nuts, washers and straps that can be removed readily, and clean them with a strong solution of cooking soda and water. Put all the parts taken off into a strong solution of soda and water and let them stand for thirty minutes. Then use a short, stiff brush to remove all signs of corrosion. Also clean terminal posts of battery, being very careful not to let the soda solution get into the battery. Wipe all parts dry and give them a good coat of vaseline. When assembling, wipe the vaseline off contact surface so that good contact is made. After all parts are assembled, they should receive another coat of vaseline. If terminals are kept well coated with vaseline, corrosion will not occur. The terminals of a battery are usually marked positive and negative.

FREEZING—A fully charged battery of about 1.300 gravity, will freeze at about 90 degrees below zero, and when discharged to 1.150, it will freeze at about 10 degrees below zero. A filling syringe should be used when adding water to a battery. Keep the battery and compartment clean and dry, and free from foreign substances.

SEDIMENT—The wearing of a battery causes sediment to accumulate in the bottom of the cells, which must be removed. If sediment is high enough to short circuit across the bottom end of the plate, it will cause

the battery to overheat, gas excessively, gravity will be slow to rise, and when the charging current is switched off, the voltage of each cell will drop below 2.2 volts, and will continue to drop. The gravity of the solution will continue to drop, and in time the battery will discharge even if not in use.

TO REMOVE THE SEDIMENT—Fill each cell with water to the proper height, and place on charge. Charge until the gravity of all cells ceases to rise for two hours. Remove plates, set them in an earthen vessel and cover with water. Clean the sediment out of the cells and wipe them dry. Fill the cells about one-fourth full of 1.300 electrolyte. Then set the plates into the cells and immediately cover with new 1.300 electrolyte. Be careful not to have plates exposed to the air for any length of time. Discharge plates back to point where gravity tests 1.200. Then charge until the gravity of all cells ceases to rise for two hours.

All battery compartments should be ventilated to allow the gases which are given off while charging, to escape.

A good hydrometer should be used for taking gravity readings. Some hydrometers are so inaccurate that they should not be used. Insist that yours will be accurate.

SULPHATION—A sulphated battery should be charged at a very low rate, if the gravity is very low. The charge should be continued for four or five hours after the gravity has ceased to rise. A battery that is out of service should have water added and receive a charge at least once every two months.

AMPERE HOUR CAPACITY—Batteries are rated

in ampere hours, that is, a 100-ampere hour battery will supply current for approximately 100 hours at the rate of one ampere, or for 50 hours at 2-ampere rate, etc.

Tests prove that most storage batteries fall below their rated capacity, and as the discharge rate is increased the actual capacity decreases.

Direct current must be used for charging batteries. If only alternating current is available, it must be rectified. A vibrating rectifier, rotary converter, or an A.C. motor driving a D.C. generator may be used.

POLARITY—The positive and negative charging wires, or battery terminals, can be distinguished as follows: Dip the ends of the wires in salt water, keeping

the ends about an inch apart. Bubbles will rise from the negative wire. Wires should be connected to the battery, positive charging wire to positive terminal. The difference between A.C. and D.C. current can be told by dipping the wires in salt water; if A.C. current, bubbles will arise from both wires, while in the case of D.C., only from the negative.

A user of a battery should keep top of cells dry and free from foreign substances, keep it charged, keep plates covered by adding distilled water at intervals, and see that the terminals do not corrode. The charging rate is increased by cutting in more lamps, and decreased by taking out lamps.



ELECTRICAL SYMBOLS.

FILE: 215.



POSITIVE



NEGATIVE



BATTERY, EITHER STORAGE OR DRY CELLS.



GENERATOR, COMMUTATOR AND BRUSHES.



THE PROPER WAY TO SHOW A COIL WHICH SURROUNDS AN IRON CORE.



THE COMMON METHOD USED IN SHOWING A COIL, WHERE THERE IS NO CHANCE OF CONFUSION



THE METHOD OF SHOWING RESISTANCE, SUCH AS A RESISTANCE UNIT AND A CHARGING RESISTANCE.



CONTACT POINTS, SUCH AS IN SWITCHES, DISTRIBUTORS, ETC.,



GROUND - CONNECTION WHERE THE WIRE IS CONNECTED TO THE CHASSIS, ENGINE OR GENERATOR.



METHOD OF SHOWING LIGHTING SWITCHES.



MOTOR COMMUTATOR AND BRUSHES WITH BRUSH LIFTING SWITCH.



PRIMARY AND SECONDARY WINDINGS OF AN IGNITION COIL



CONDENSER -



CROSS WIRES NOT CONNECTED.



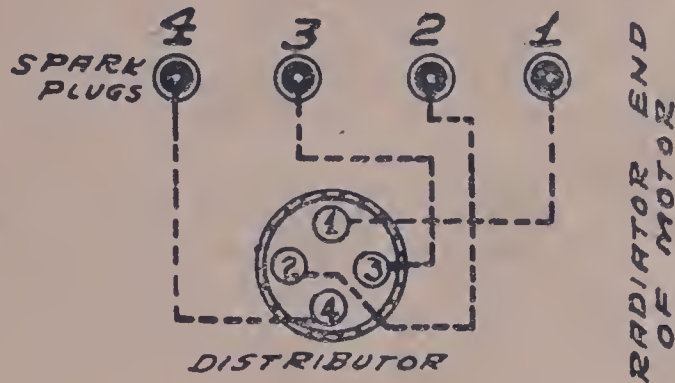
CROSS WIRES CONNECTED.



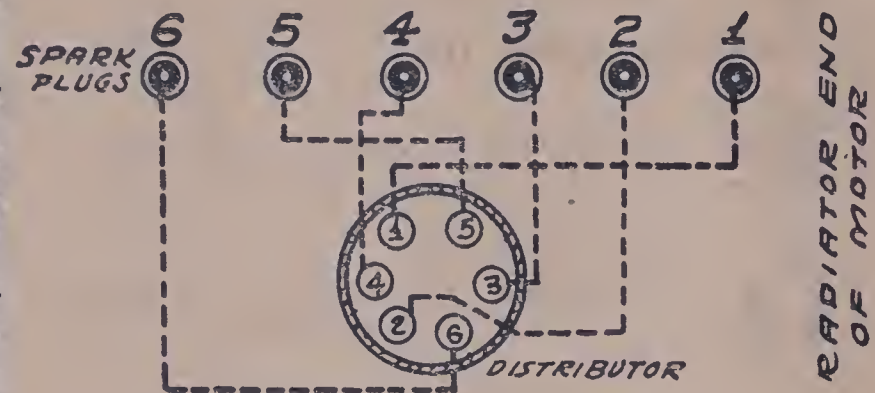
CONNECTION IN THE WIRING.

IGNITION WIRING

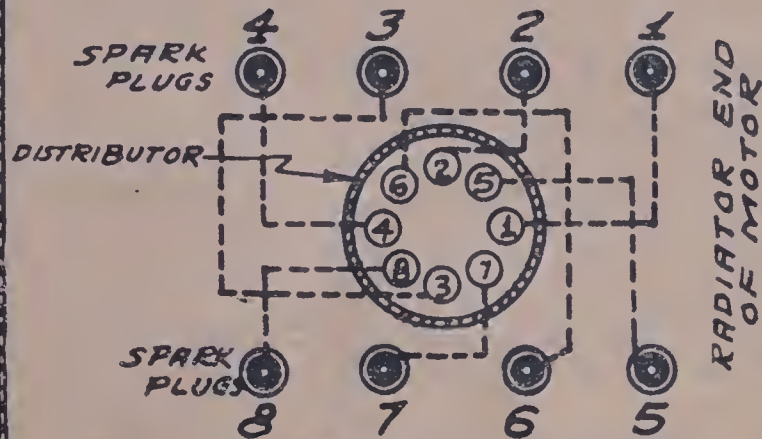
RESPECTIVE POSITION OF CYLINDERS AS SHOWN THROUGHOUT THE GUIDE



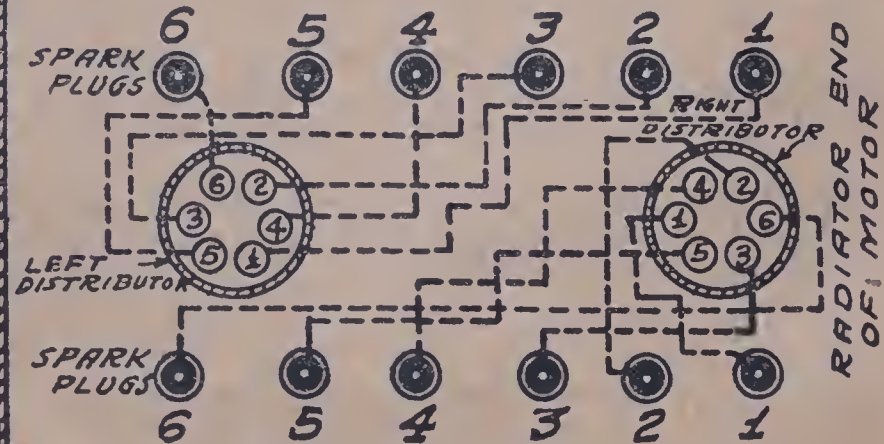
4-CYLINDERS



6-CYLINDERS

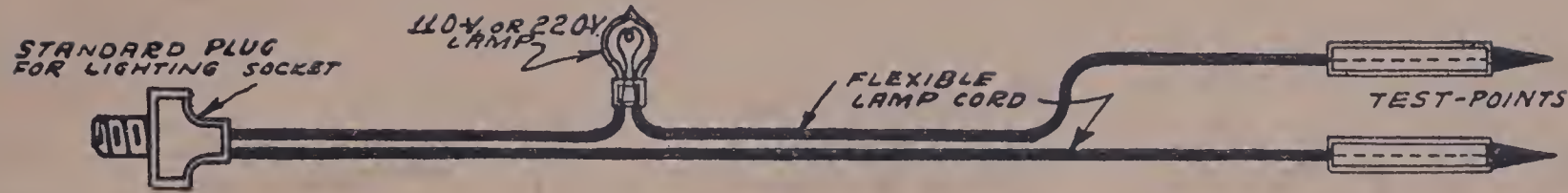


8-CYLINDERS

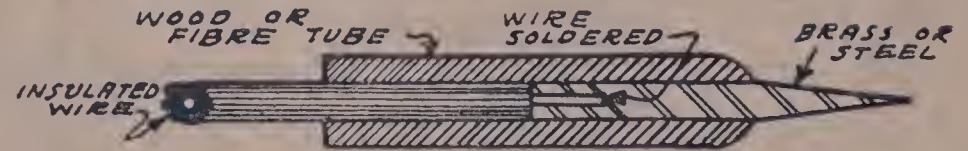


12-CYLINDERS

CIRCUIT TESTING.



EQUIP YOUR GARAGE WITH TEST POINTS.
DIAGRAM SHOWS HOW TO MAKE TEST POINTS.



IMPORTANT—DISCONNECT BATTERY BEFORE TESTING WITH TEST POINTS.

IN TESTING CIRCUITS BE SURE THAT CIRCUIT CANNOT FOLLOW OTHER PATHS, DISCONNECT ALL CONNECTIONS THAT WILL INTERFERE WITH CIRCUIT UNDERGOING TEST.

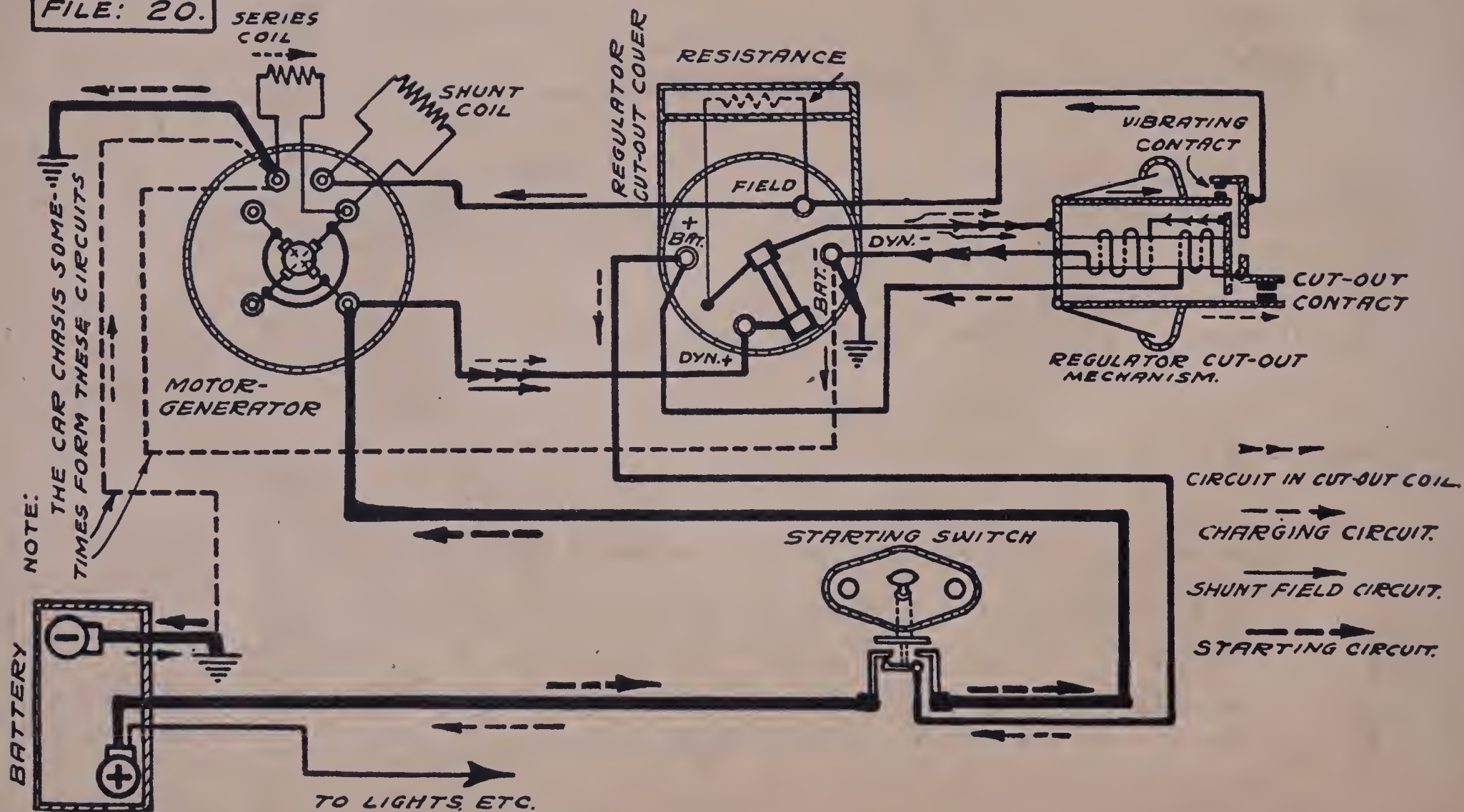
IF SYSTEM IS GROUNDED, REMOVE GROUND CONNECTION BEFORE TESTING.

IN TESTING CIRCUIT;— LAMP WILL LIGHT IF CIRCUIT IS CLOSED.
LAMP WILL NOT LIGHT IF CIRCUIT IS OPEN.

IF CIRCUIT IS OPEN WHEN IT SHOULD BE CLOSED, IT CAN BE REPAIRED BY SOLDERING SHORT JUMPER TO EACH OF THE BROKEN ENDS;— IF CIRCUIT IS CLOSED WHEN IT SHOULD BE OPEN, LOOK FOR GROUND AND INSULATE CAREFULLY.

ALLIS-CHALMERS
SINGLE UNIT INTERNAL WIRING.

FILE: 20.

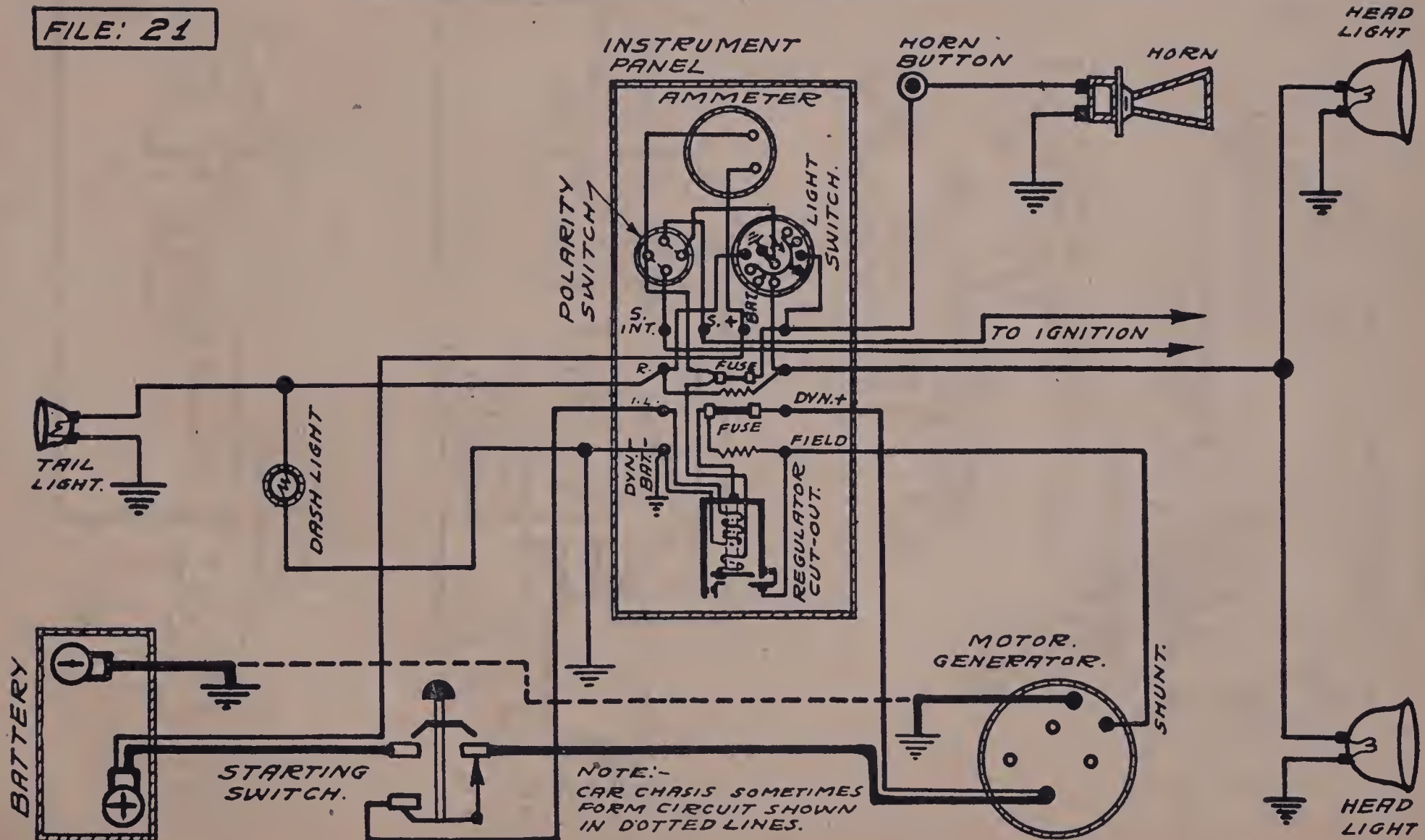


ALLIS-CHALMERS

STANDARD WIRING. 6-VOLT.

BRIGGS AND STRATTON INSTRUMENT PANEL.

FILE: 21

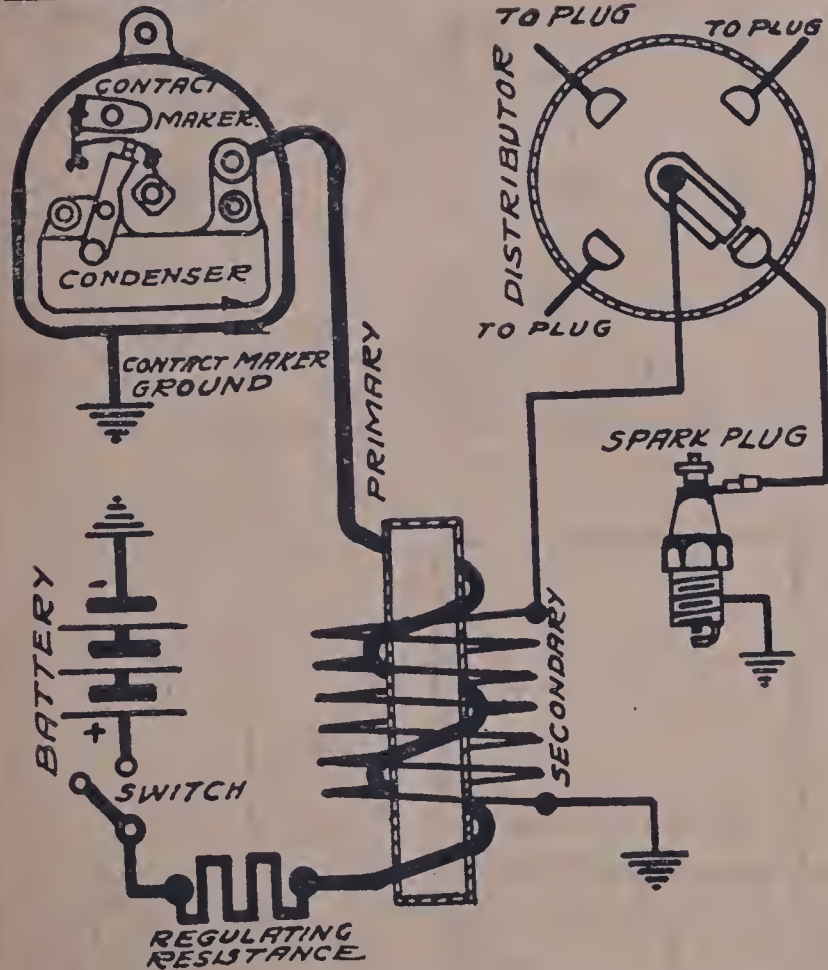


ATWATER KENT

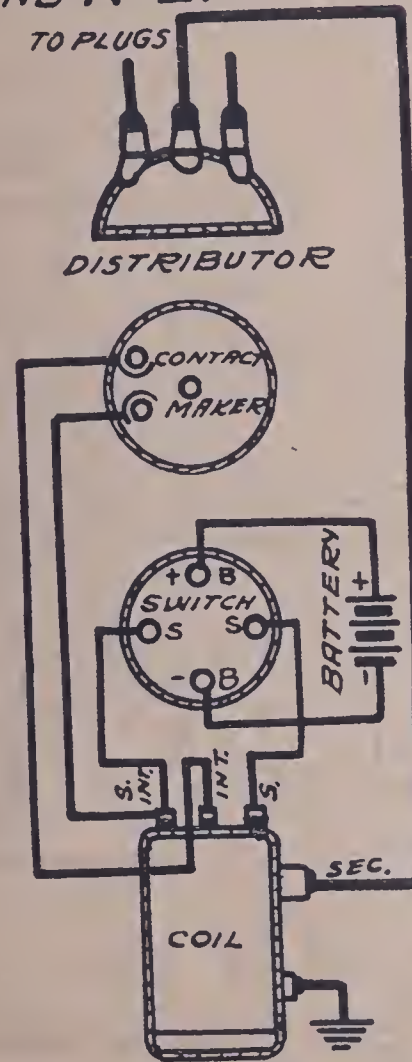
IGNITION SYSTEMS

TYPES, C.C. AND K-2.

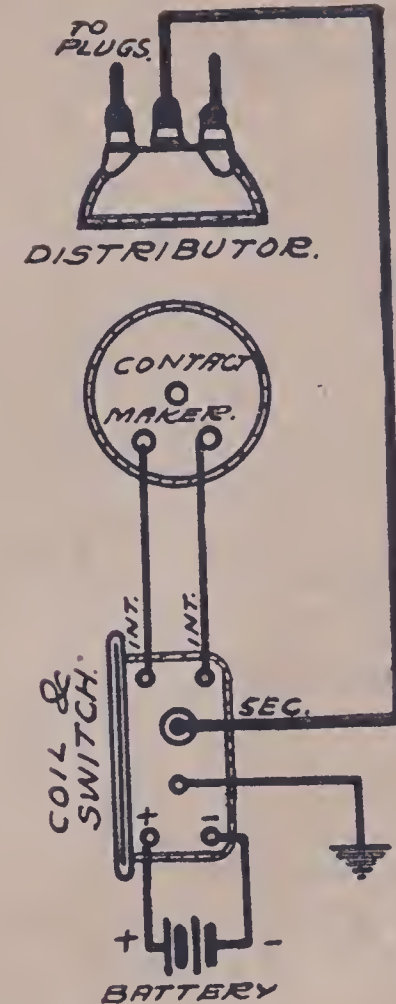
FILE: 22.



TYPE C-C.
INTERNAL WIRING.



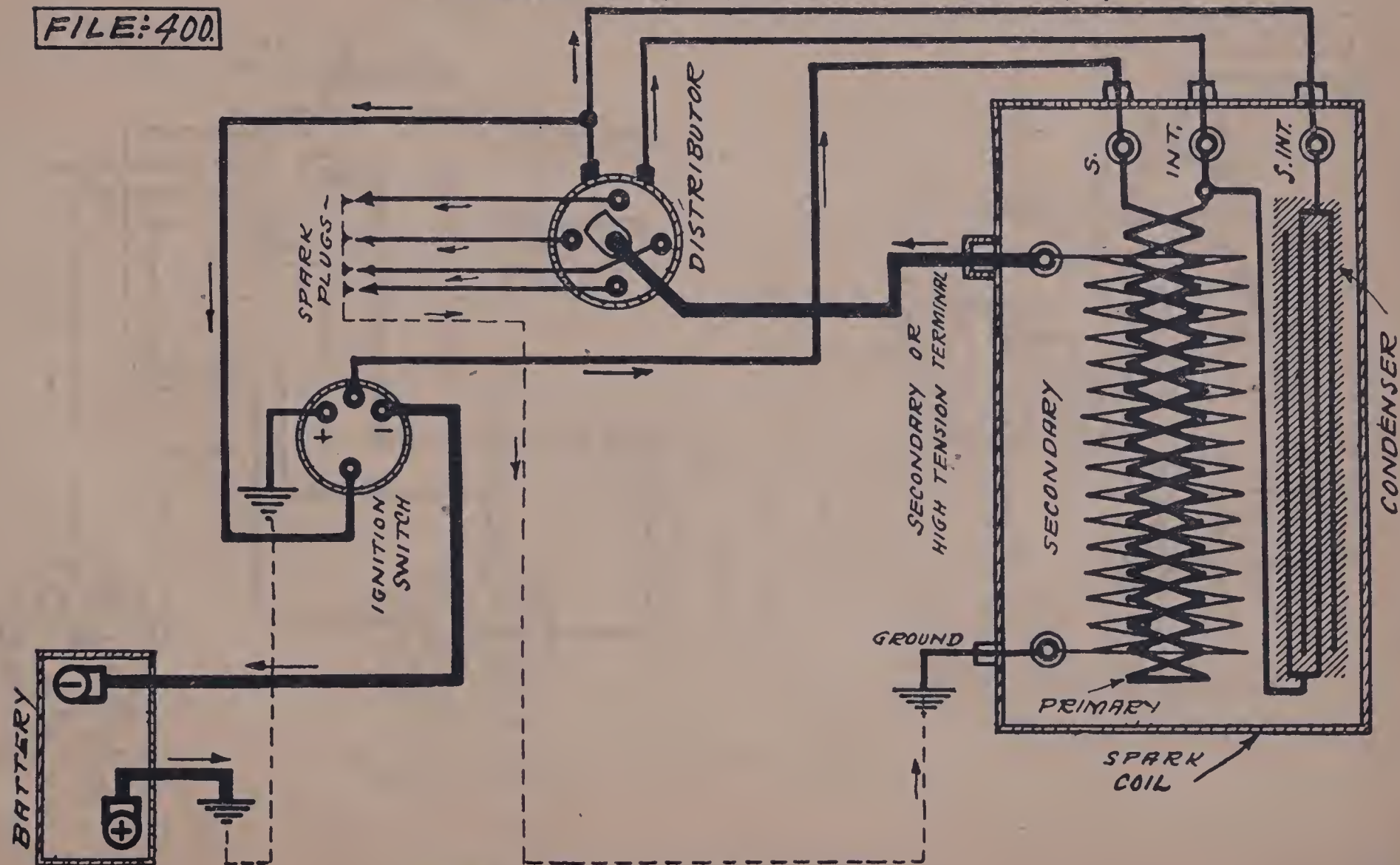
TYPE K-2
WITH UNDERHOOD COIL
REVERSING SWITCH.



TYPE K-2
WITH
PLATE SWITCH OR
KICK SWITCH COILS.

ATWATER-KENT INTERNAL CIRCUITS. TYPE K-2 IGNITION APPARATUS.-

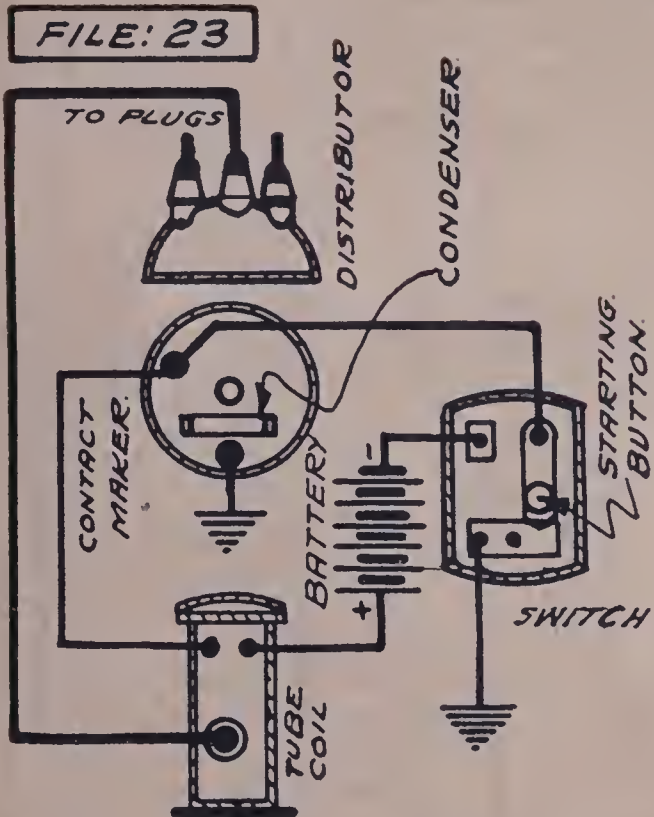
FILE: 400.



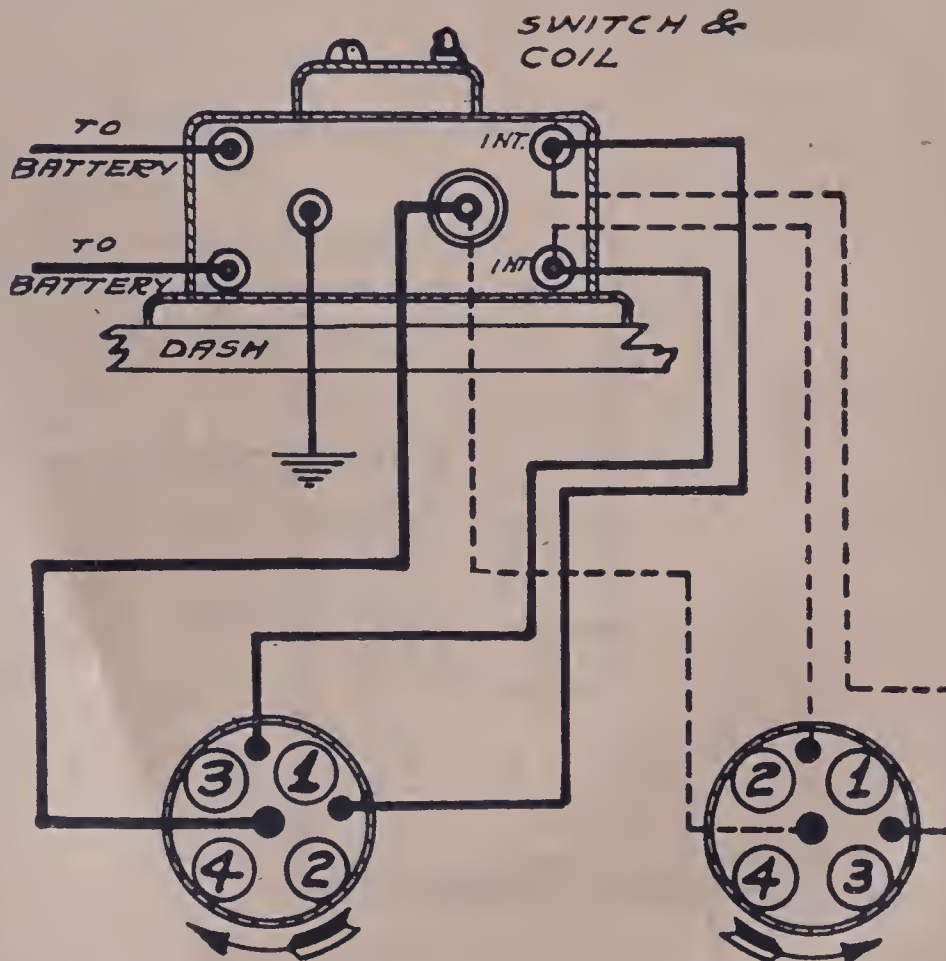
ATWATER KENT

IGNITION SYSTEMS

TYPES, K-3, K-2, AND H



TYPE K-3.
USED ON TRACTORS.



DISTRIBUTOR
TYPE K-2

FOR FORD CARS.

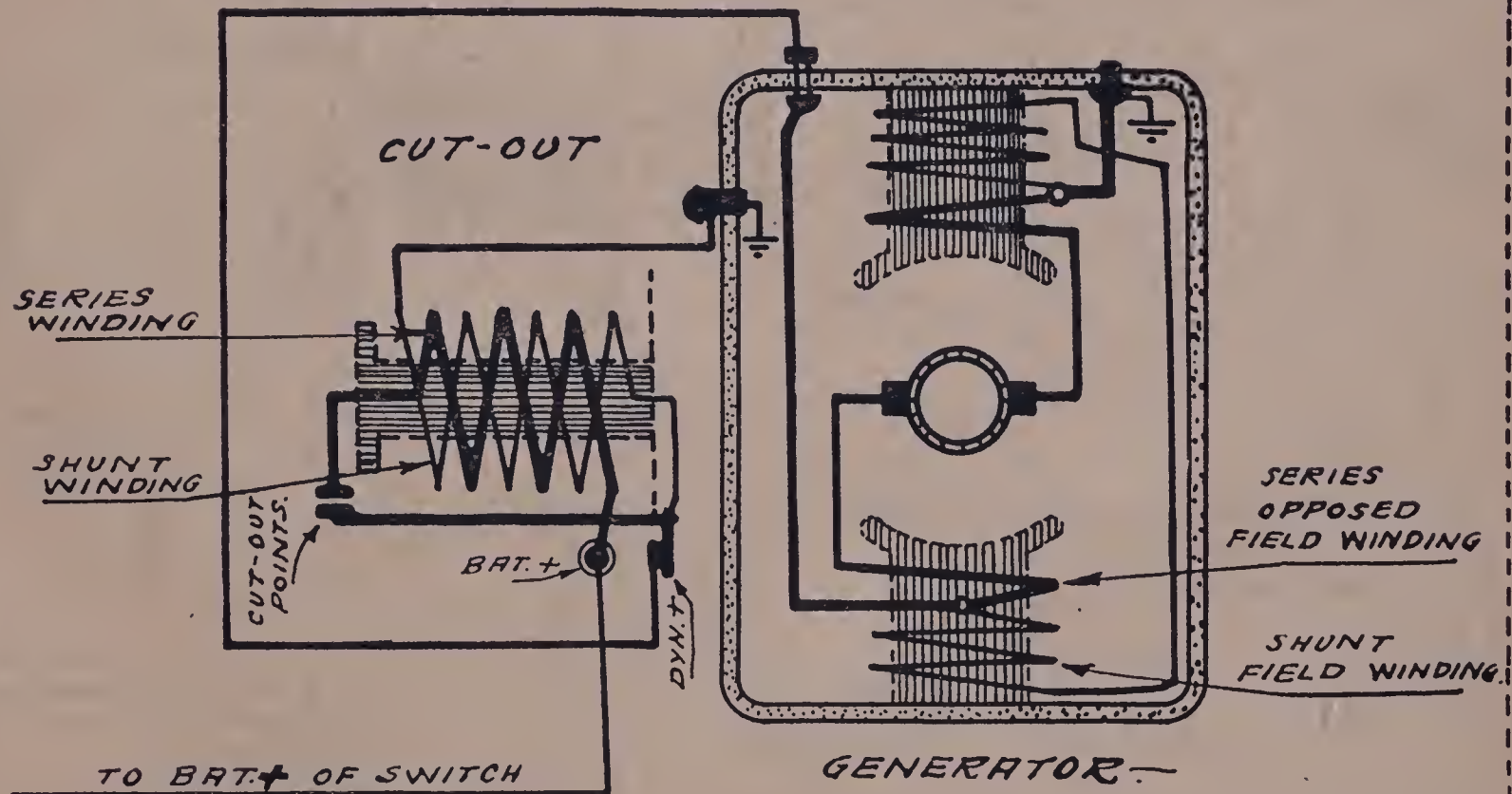
DISTRIBUTOR.
TYPE H.

FOR FORD CARS

AUTOLITE

INTERNAL CIRCUITS.
AS USED ON MAXWELL TRUCK.

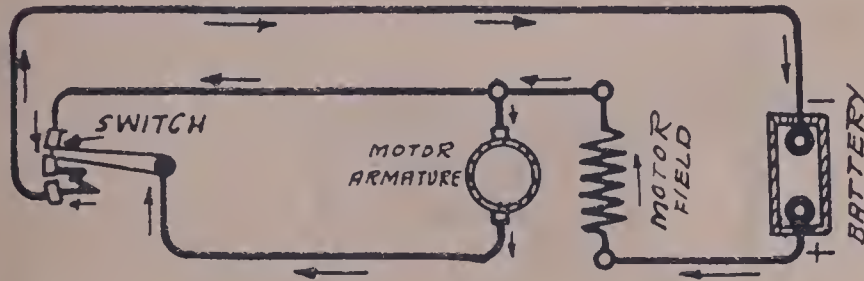
FILE: 193.



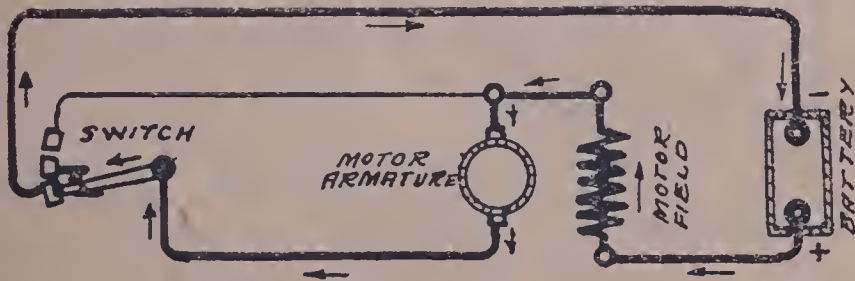
BOSCH

INTERNAL CIRCUITS OF SOLENOID STARTING SWITCH & MOTOR. -

FILE: 400.

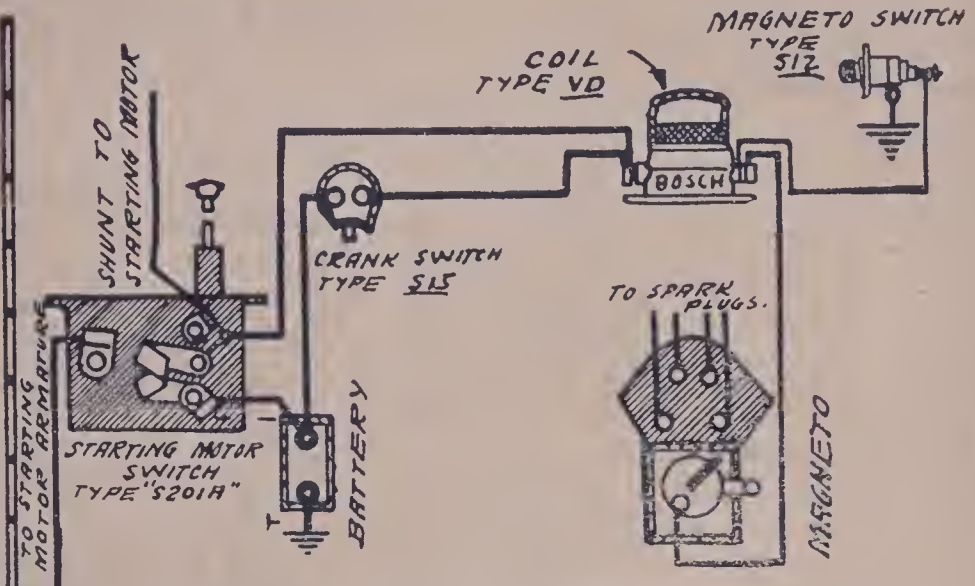


ELECTRICAL CIRCUIT DURING FIRST PART OF INWARD MOVEMENT OF SWITCH PEDAL

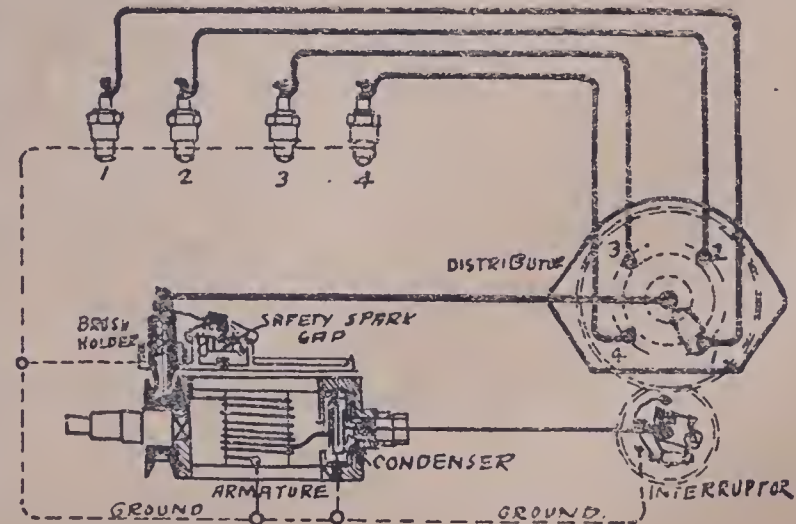


ELECTRICAL CIRCUIT ESTABLISHED WHEN SWITCH PEDAL HAS COMPLETED ITS INWARD MOVEMENT.

MAGNETO INTERNAL CIRCUITS.



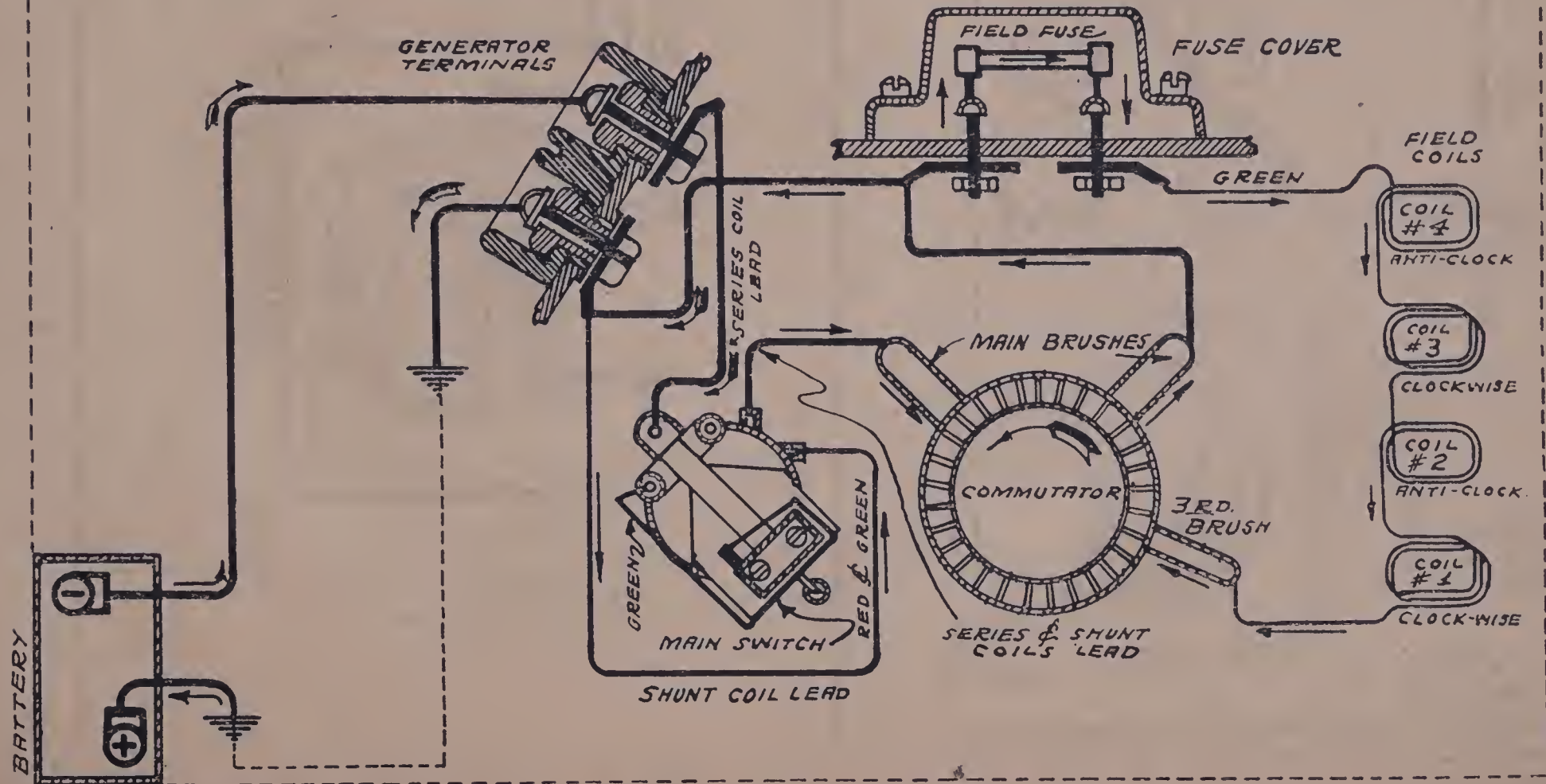
CIRCUIT DIAGRAM OF TYPE DU 4 BOSCH MAGNETO.



BIJUR

SHOWING INTERNAL CIRCUITS OF BIJUR FLEXO GENERATOR & MAIN SWITCH, THE ARROWS INDICATING DIRECTION OF CURRENT FLOW WHEN GENERATOR IS CHARGING.

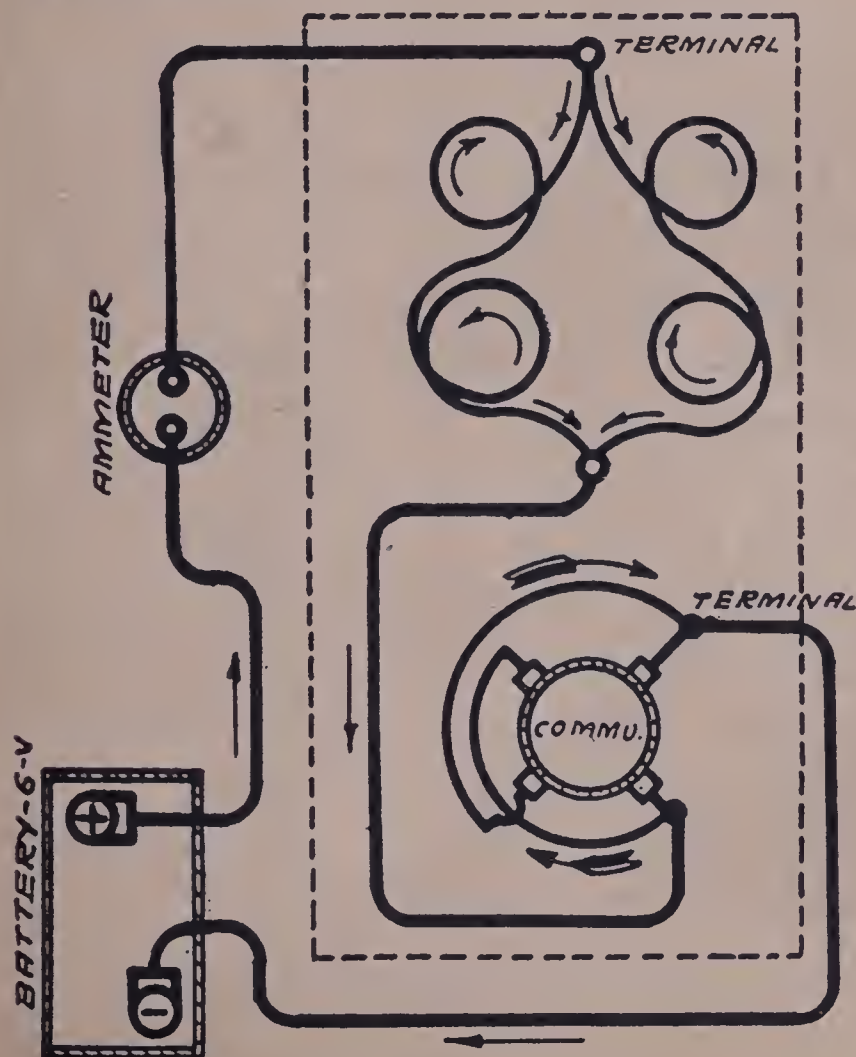
FILE: 145



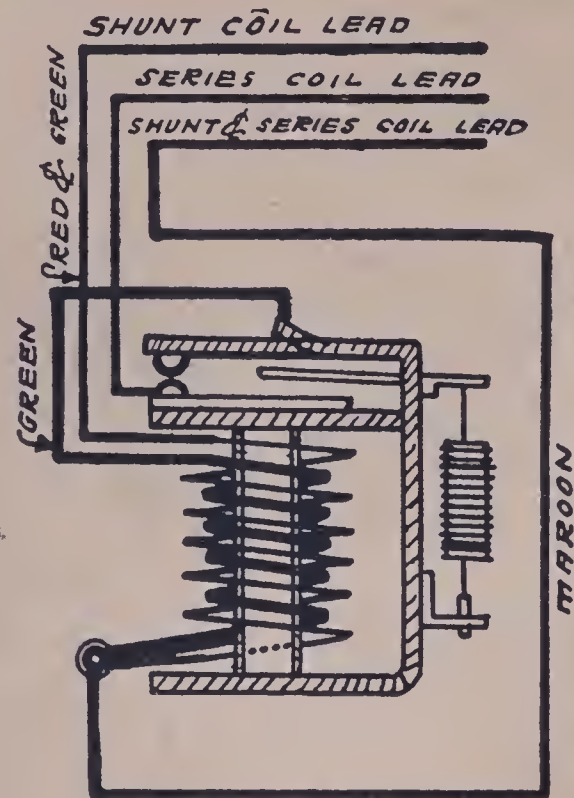
BIJUR

SHOWING INTERNAL CIRCUITS OF
BIJUR MODEL-FLEXO-STARTING MOTOR.

FILE:145.



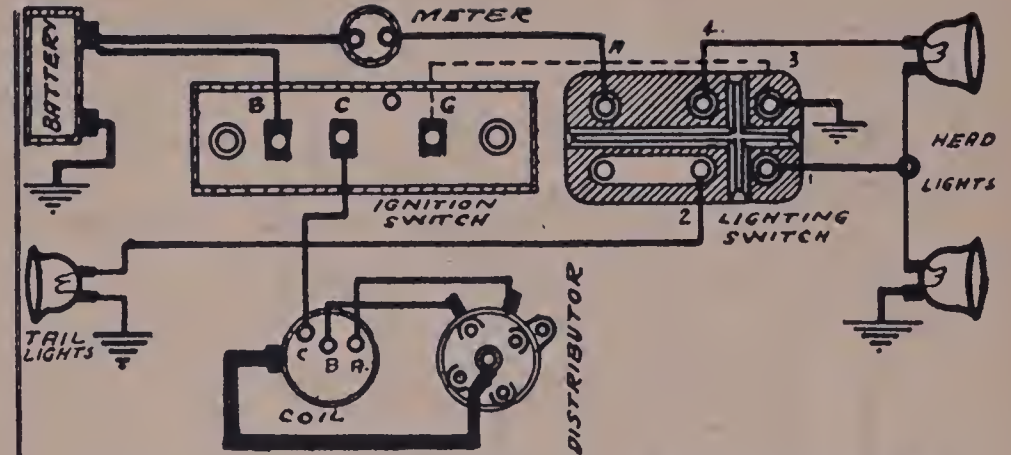
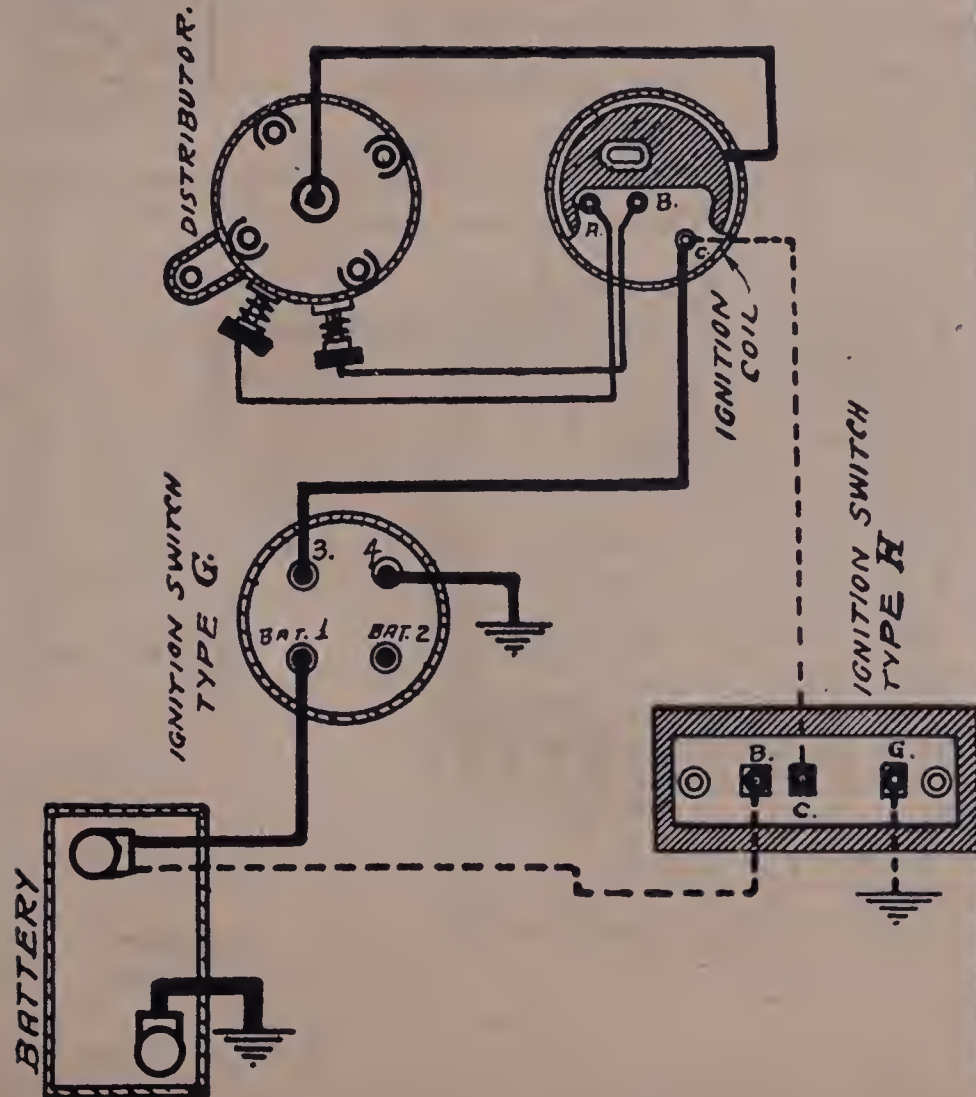
SHOWING INTERNAL CIRCUITS OF
BIJUR MODEL-FLEXO-MAIN SWITCH.



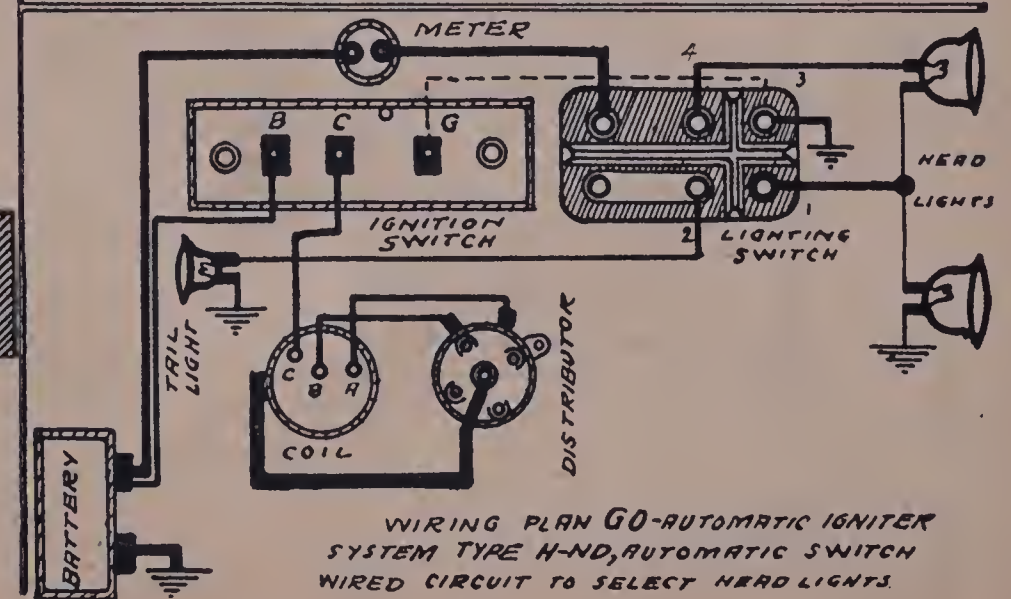
- FLEXO-
- MAIN SWITCH -

CONNECTICUT AUTOMATIC IGNITION

FILE:401.



WIRING PLAN GO AUTOMATIC IGNITION SYSTEM.
USING TYPE H-ND. AUTOMATIC SWITCH, WIRED WITH
GROUNDED CIRCUIT FOR SERIES DIMMER.

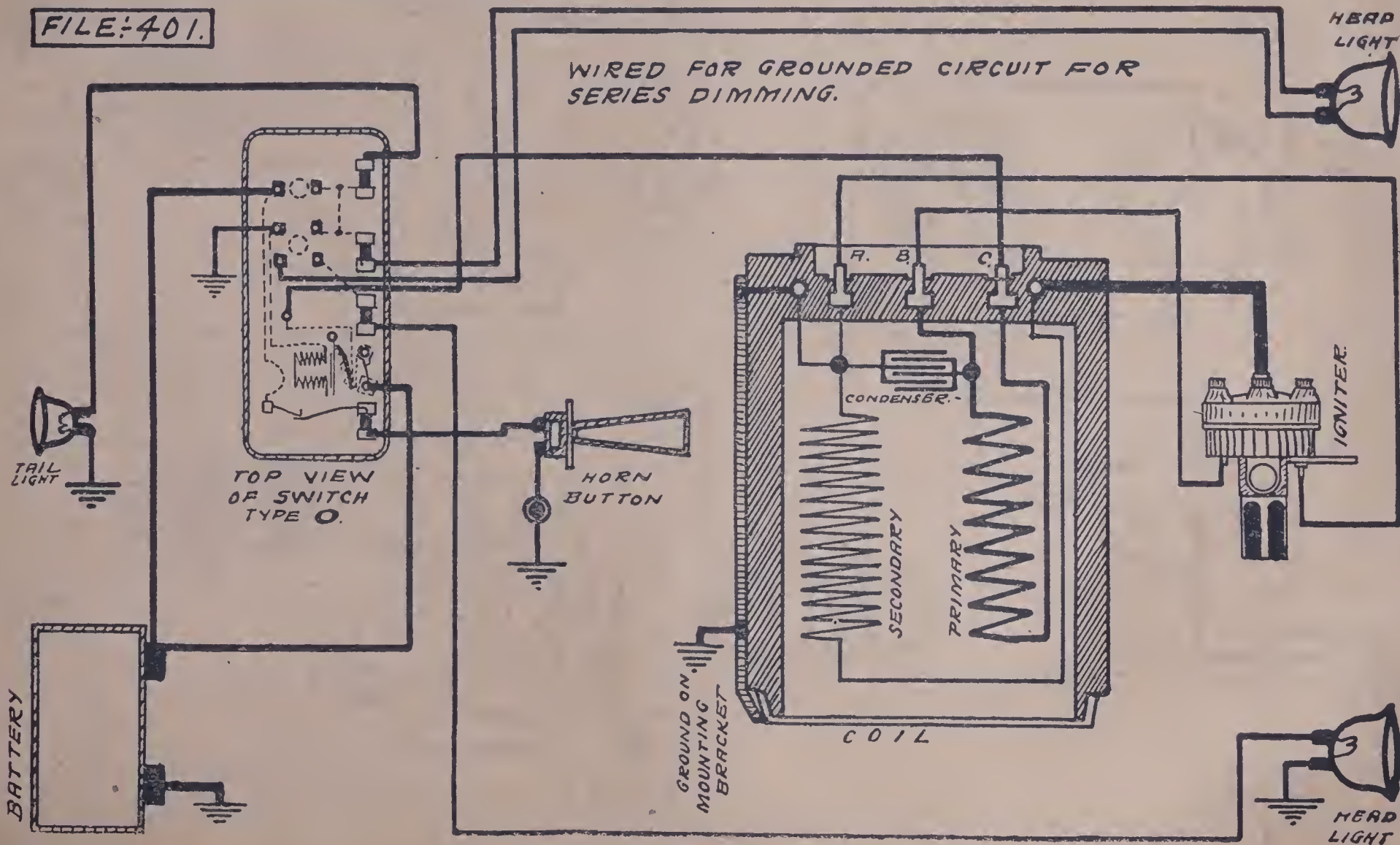


WIRING PLAN GO-AUTOMATIC IGNITER
SYSTEM TYPE H-ND, AUTOMATIC SWITCH
WIRED CIRCUIT TO SELECT HEAD LIGHTS.

CONNECTICUT. AUTOMATIC IGNITION.

WIRING PLAN GR AUTOMATIC IGNITER SYSTEM USING TYPE O AUTOMATIC SWITCH

FILE: 401.

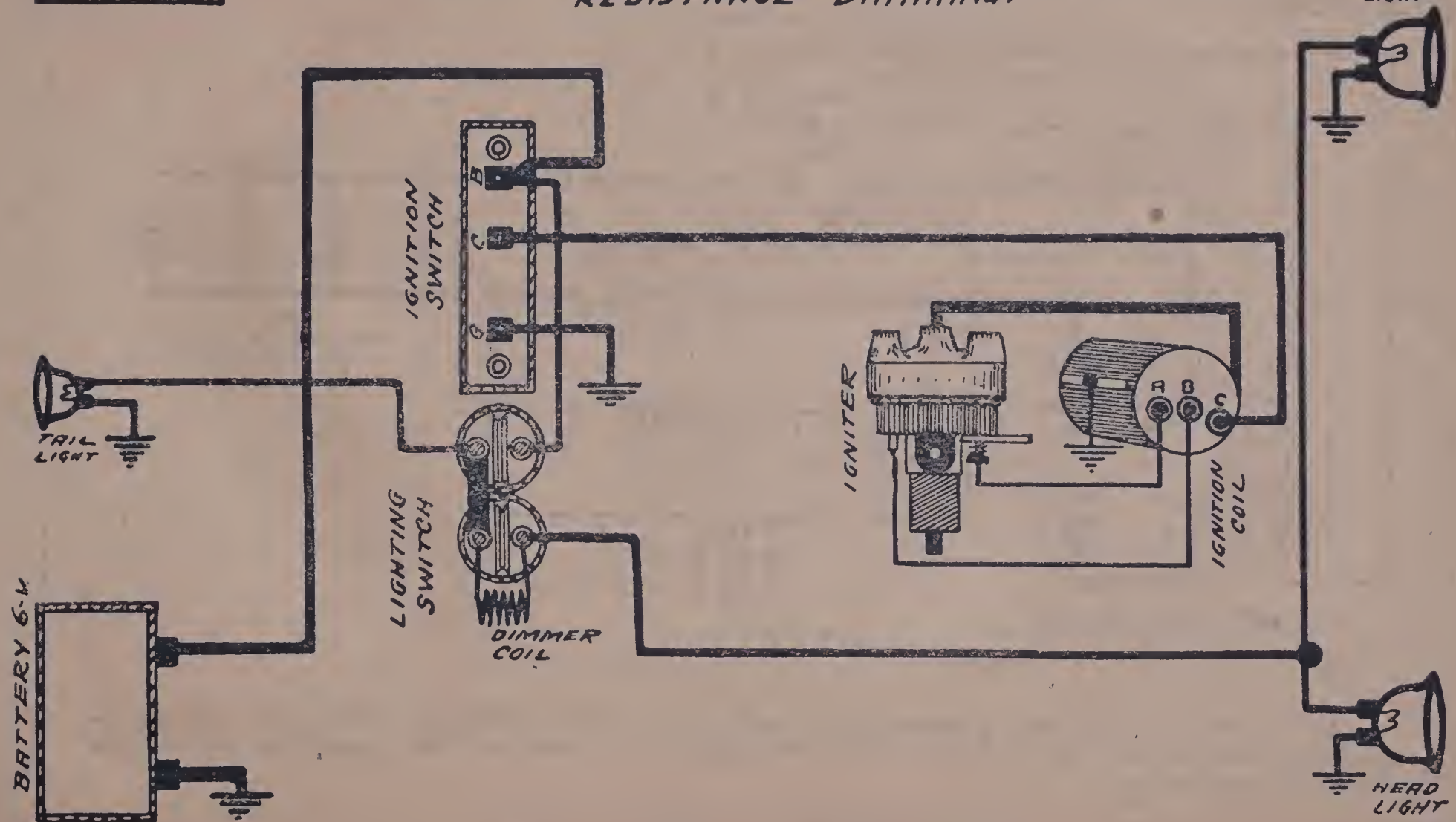


CONNECTICUT.

AUTOMATIC IGNITION.

AUTOMATIC IGNITER SYSTEM USING TYPE H-2N AUTOMATIC SWITCH WITH 'C'
RESISTANCE WIRED FOR GROUNDED CIRCUIT FOR
RESISTANCE DIMMING..

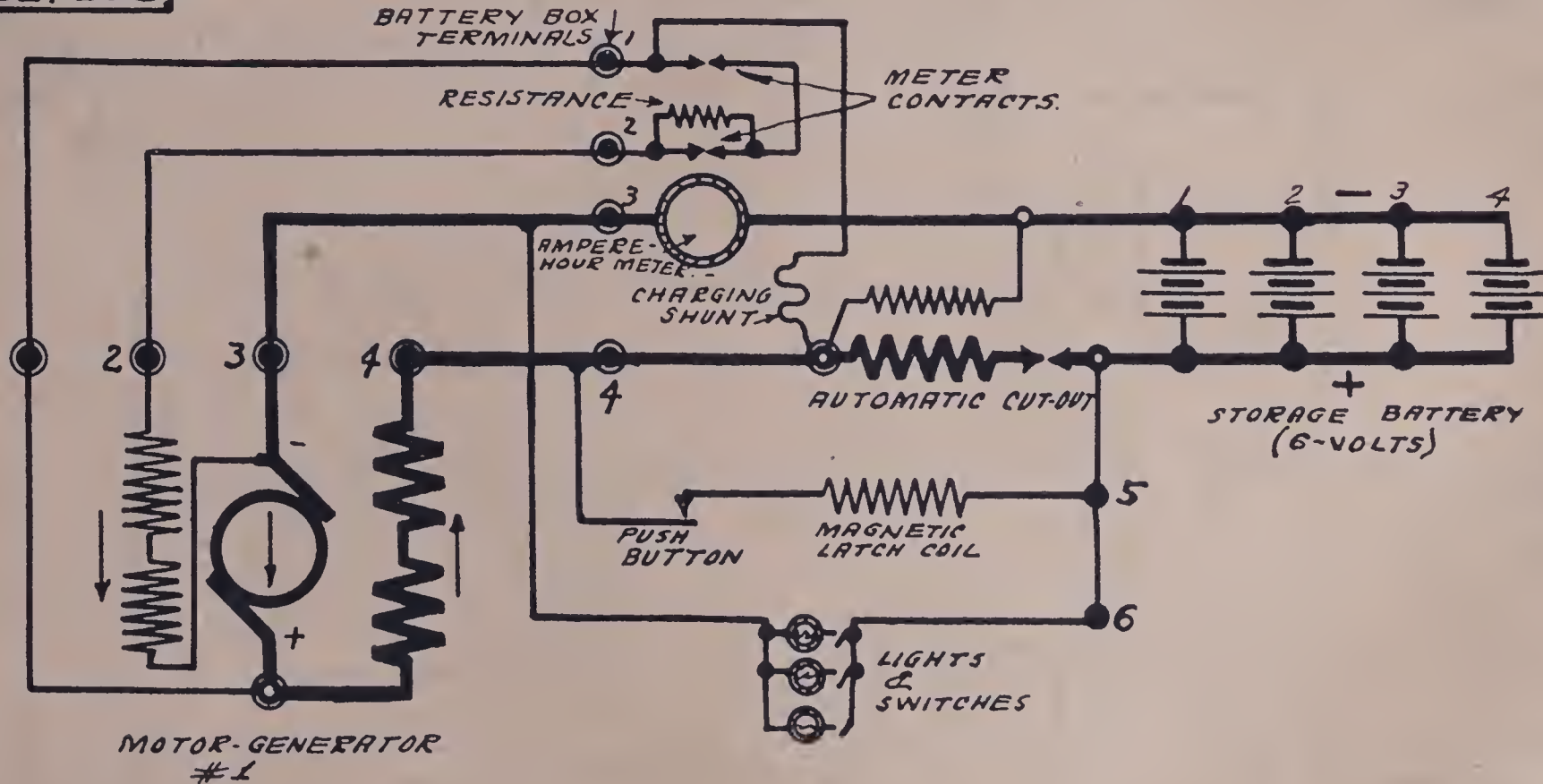
FILE: 401-



DELCO

INTERNAL CIRCUITS

FILE: 215



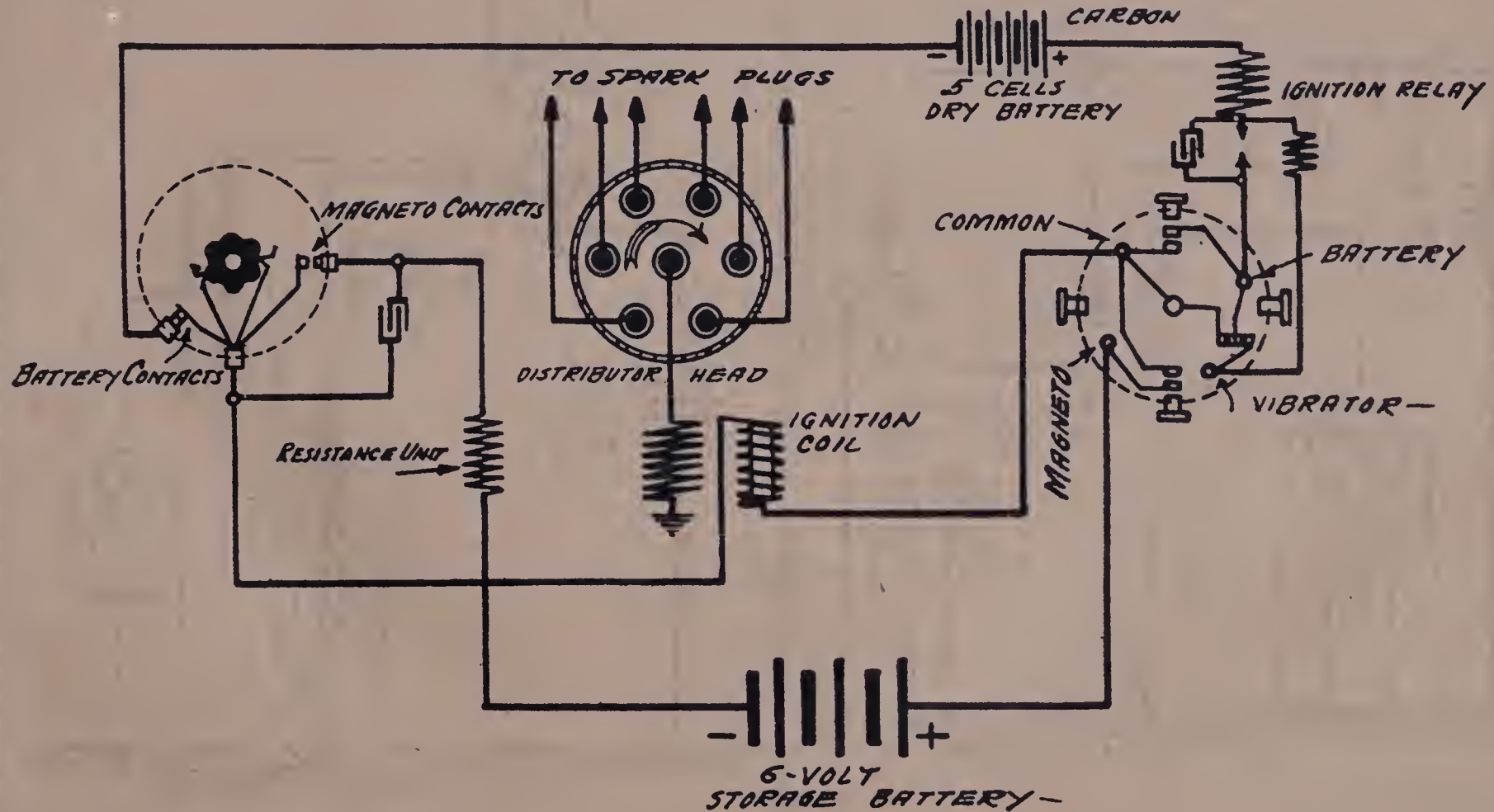
Note—This is a simplified circuit diagram applicable to all of the 6-24 volt systems, which shows the connections as they exist when the machine is operating as a generator. The heavy lines indicate the main charging circuit.

DELCO

IGNITION SYSTEM

CIRCUIT DIAGRAM OF TYPICAL SYSTEM USED IN 1913.

FILE # 215.



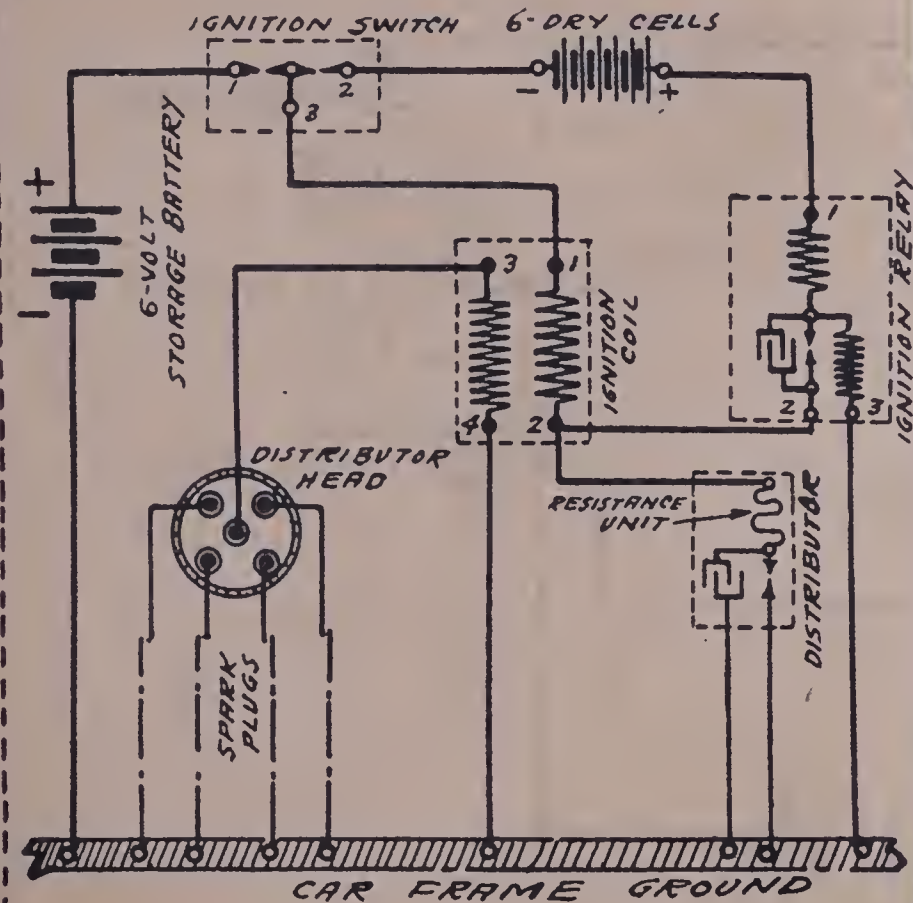
DELCO

IGNITION CIRCUITS.

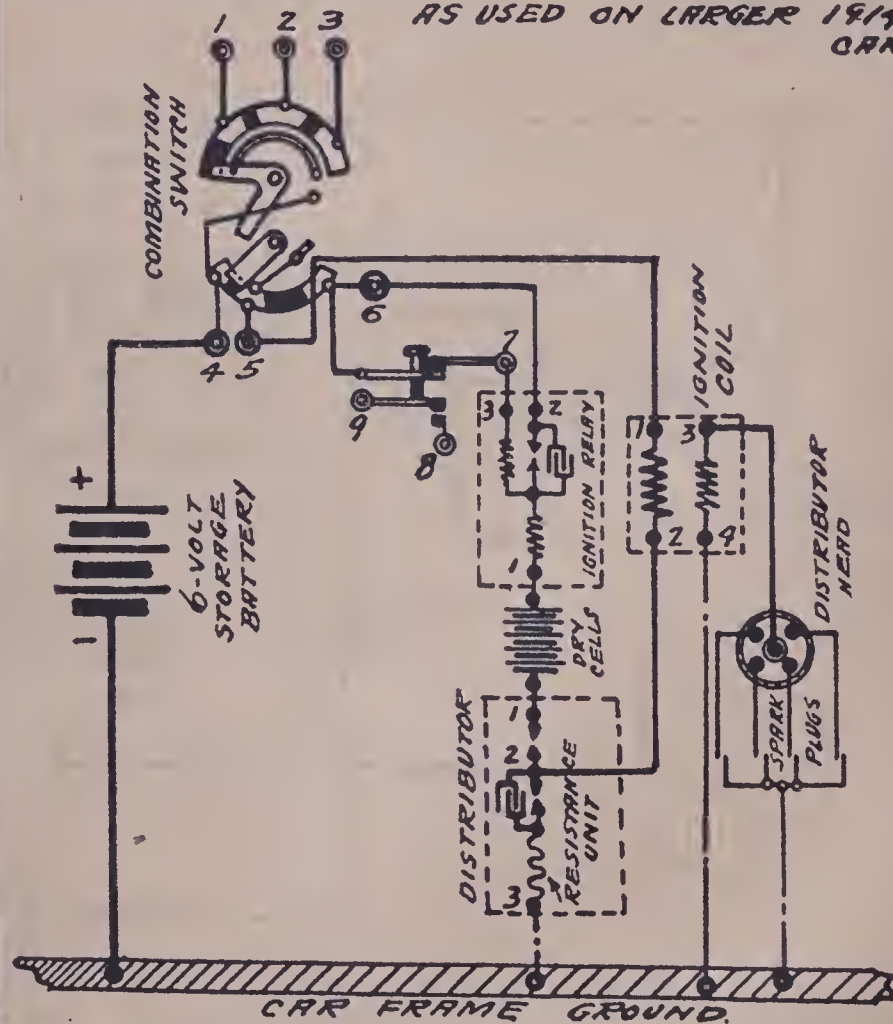
CIRCUIT DIAGRAM OF TYPICAL SYSTEM USED IN 1914

FILE: 215

AS USED ON LIGHT 1914 CARS



AS USED ON LARGER 1914 CARS

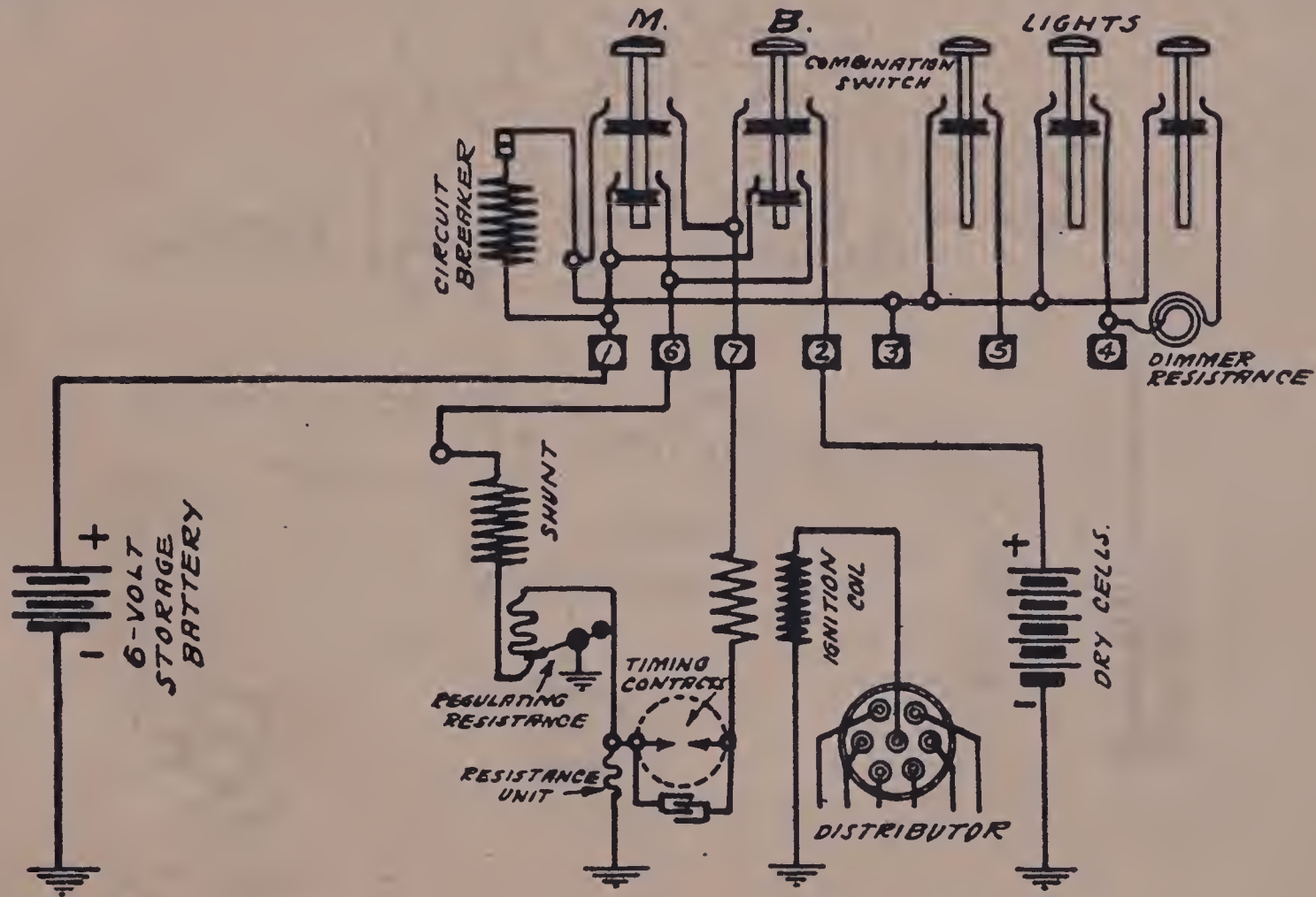


DELCO

IGNITION CIRCUITS.

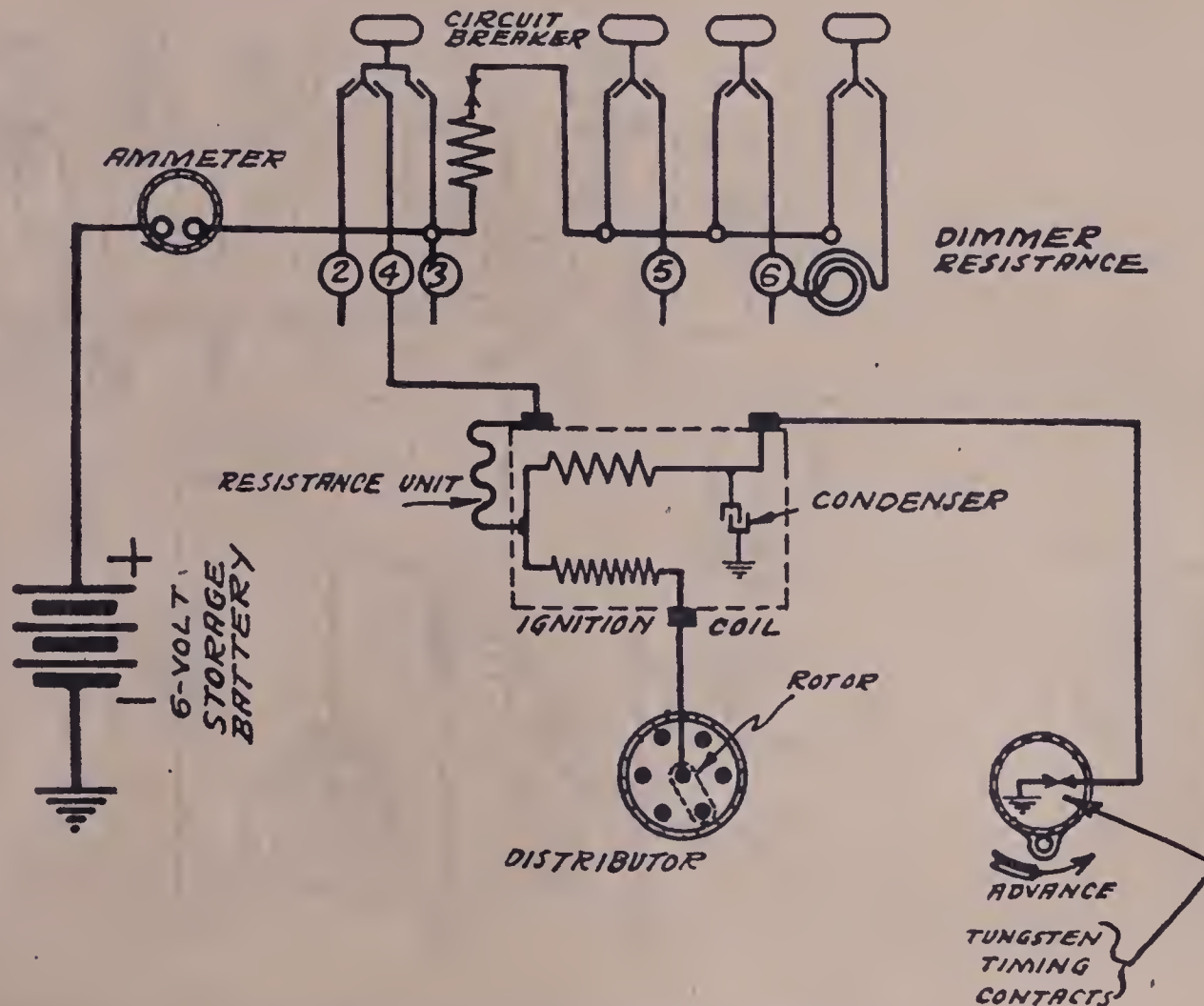
CIRCUIT DIAGRAM OF TYPICAL SYSTEM USED IN 1915

FILE: 215.



DELCO
IGNITION CIRCUITS
CIRCUIT DIAGRAM OF TYPICAL SYSTEM USED IN 1916.

FILE: 215.

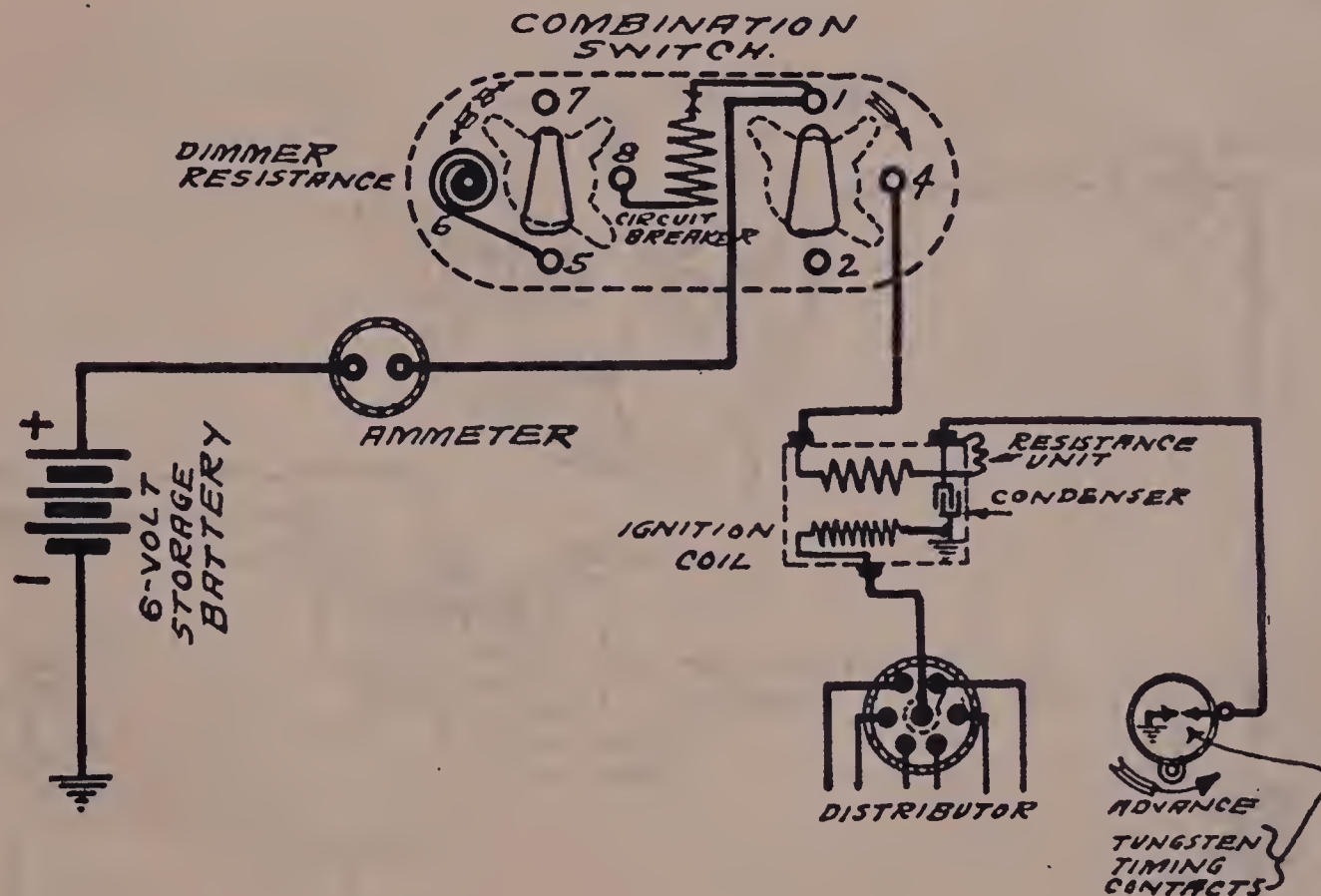


DELCO

IGNITION CIRCUITS

CIRCUIT DIAGRAM OF TYPICAL SYSTEM USED IN 1917

FILE:-215

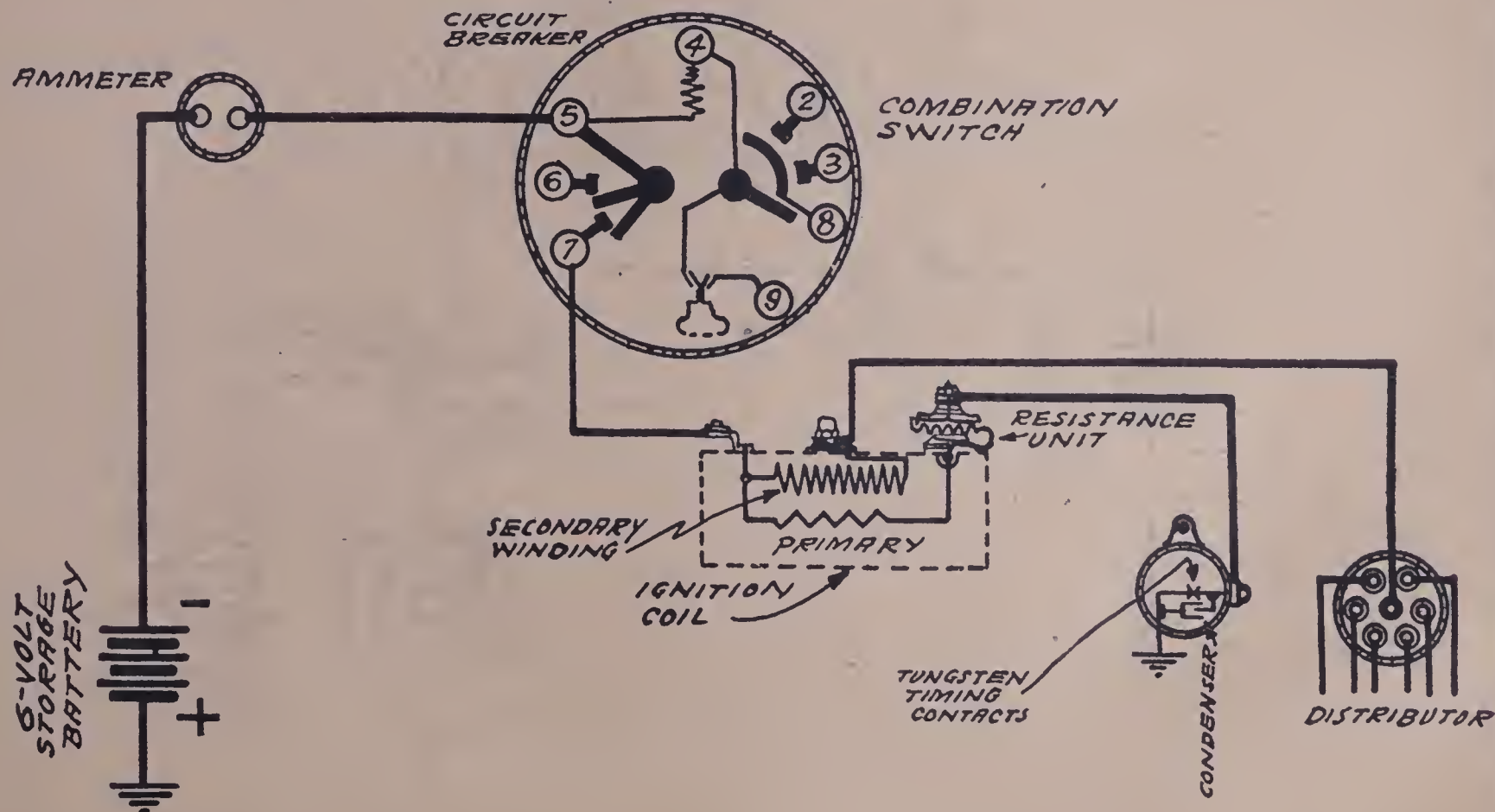


DELCO

IGNITION CIRCUITS

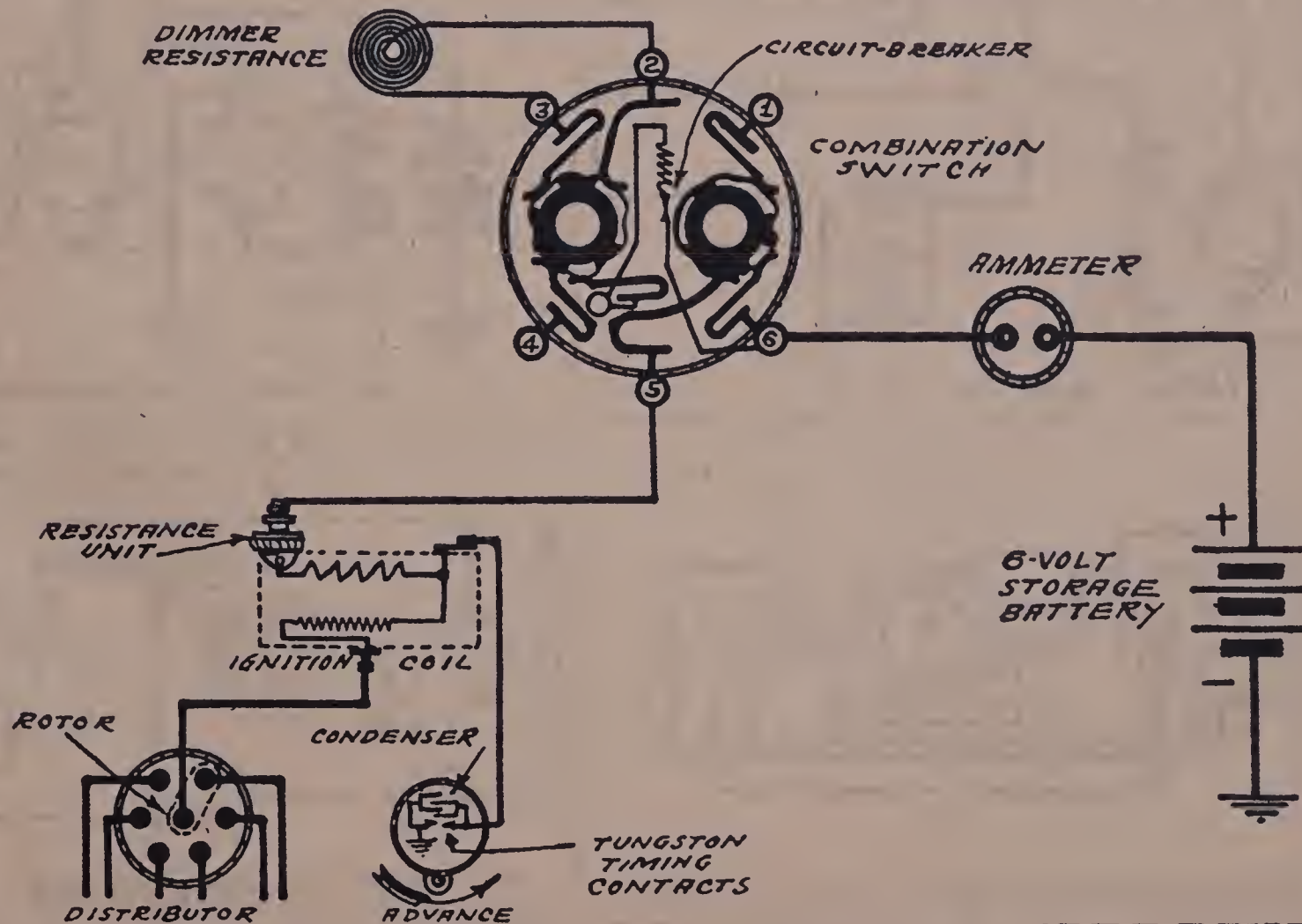
CIRCUIT DIAGRAM OF TYPICAL SYSTEM USED IN 1918.

FILE:215



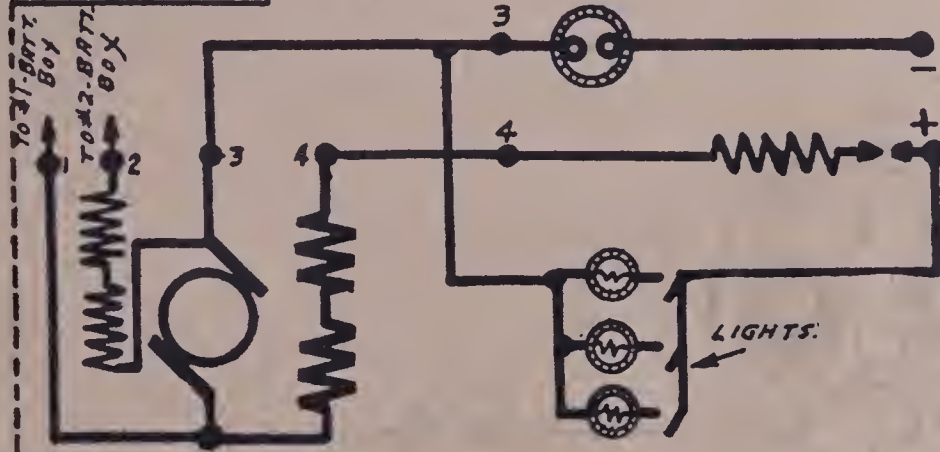
DELCO
IGNITION CIRCUITS.
CIRCUIT DIAGRAM OF TYPICAL SYSTEM USED IN 1919-1920.

FILE:215



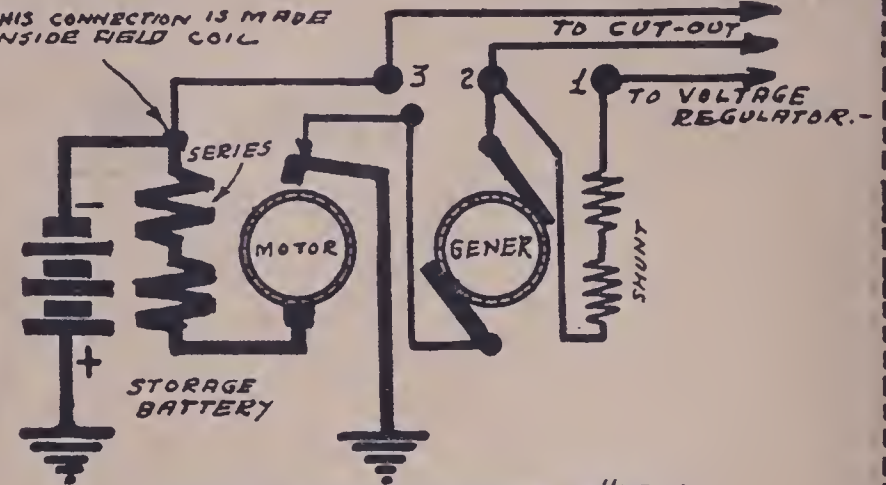
DELCO INTERNAL CIRCUITS 6-VOLTS.

FILE: 215.

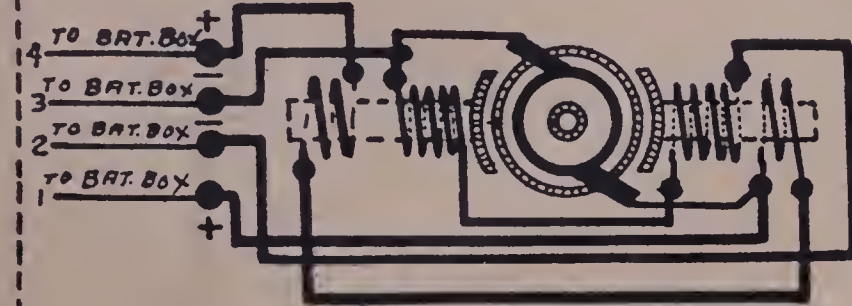


MOTOR-GENERATOR # 1.

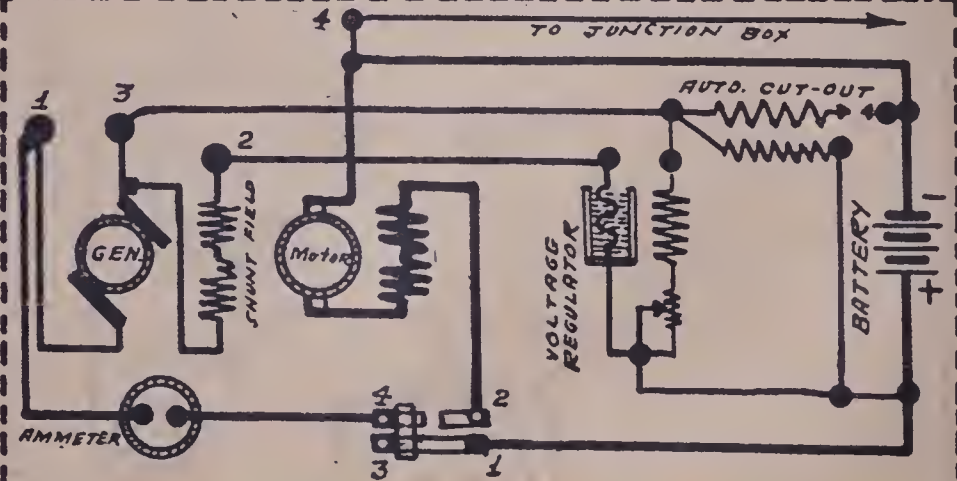
THIS CONNECTION IS MADE
INSIDE FIELD COIL



MOTOR-GENERATOR #24



MOTOR-GENERATOR # 2-8-12-15.



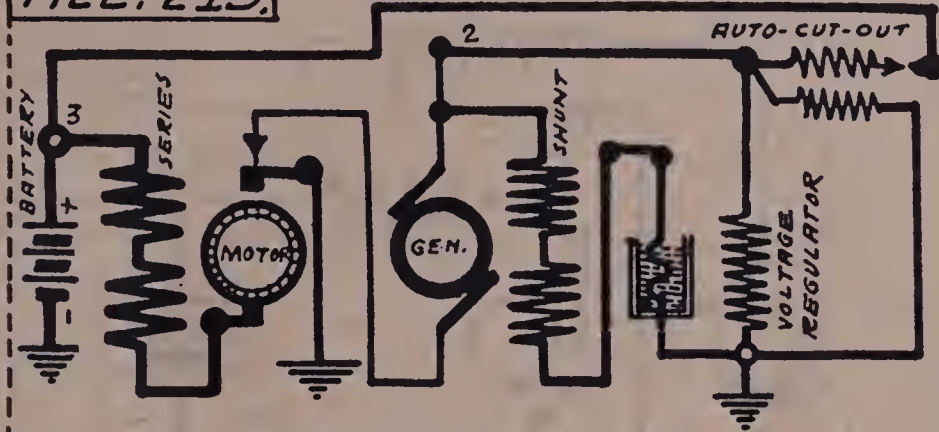
MOTOR-GENERATOR # 4

DELCO

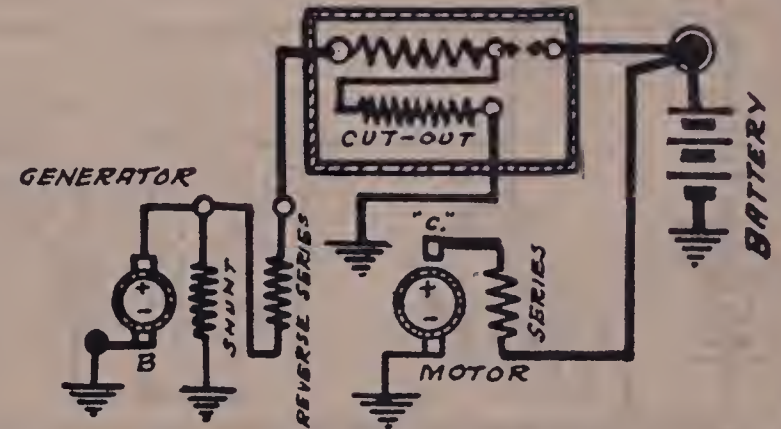
INTERNAL CIRCUITS

6-VOLTS

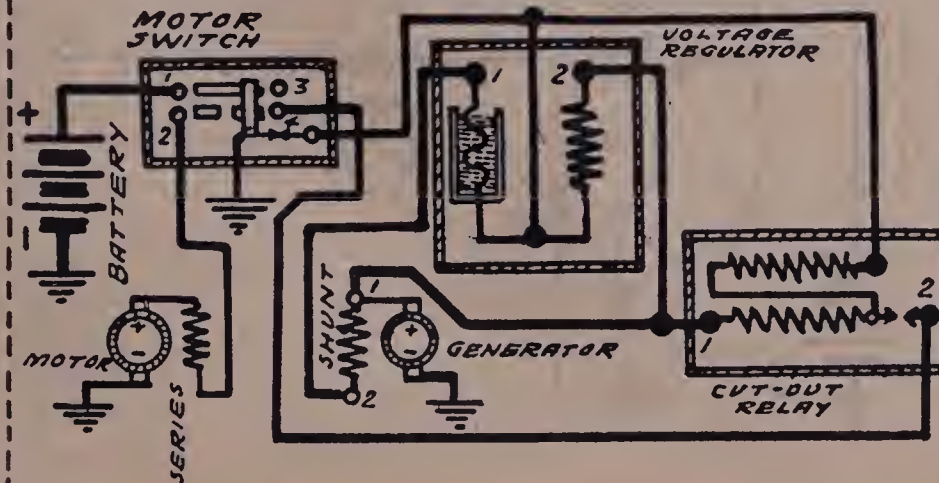
FILE: 215.



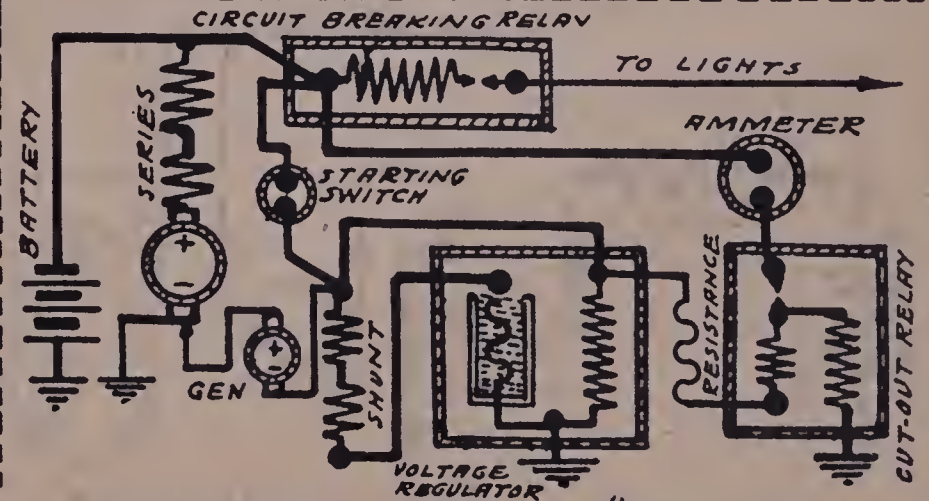
MOTOR-GENERATOR #20.



MOTOR-GENERATOR # 26,30,31,32,33,40,41,42.



MOTOR-GENERATOR 27,27-B,28,28-B,39,39-B.



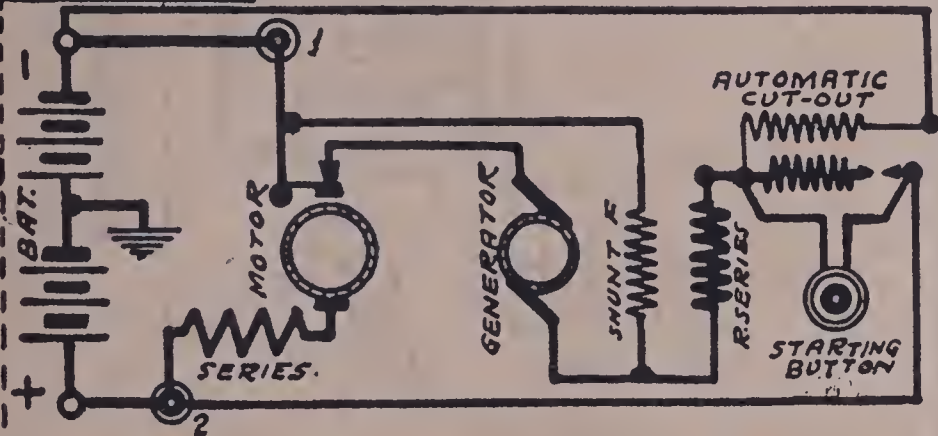
MOTOR-GENERATOR # 35.

DELCO

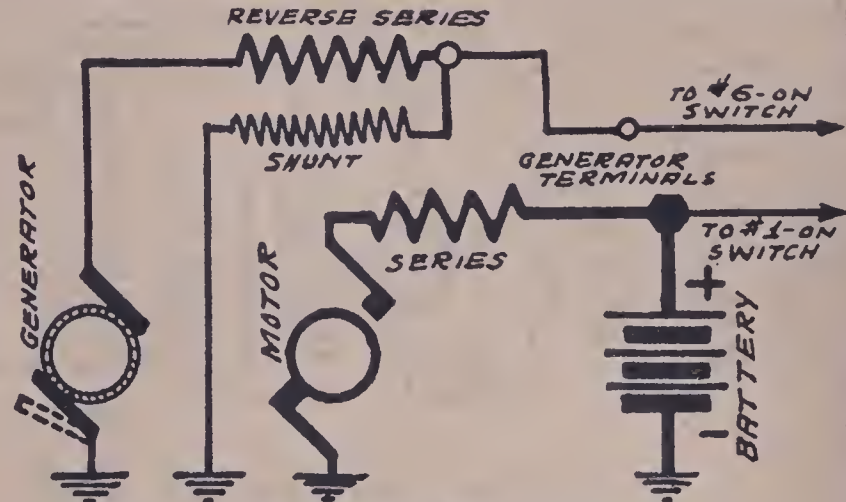
INTERNAL CIRCUITS

6-VOLTS

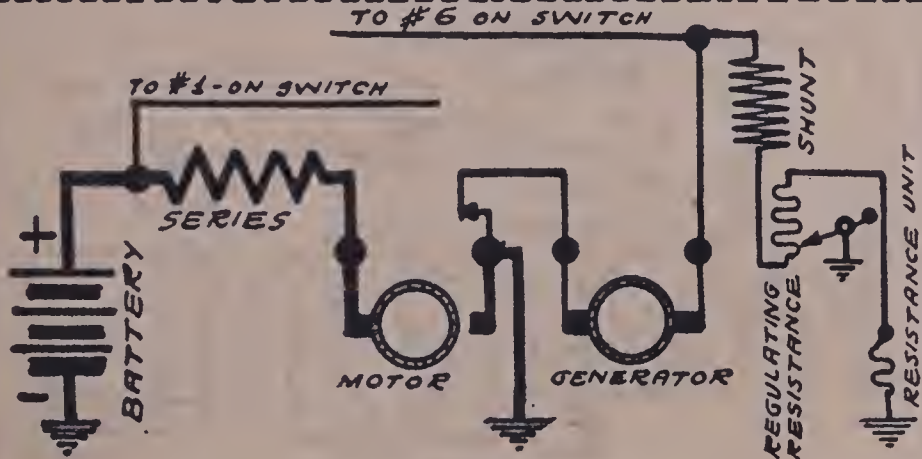
FILE: 215.



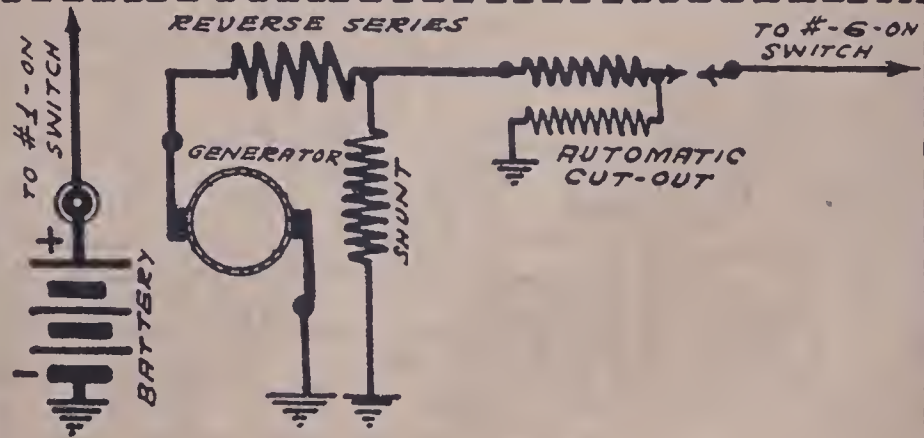
MOTOR-GENERATOR #43.



MOTOR-GENERATOR # 53, 56, 74.



44-40-45-49-50-51-
MOTOR-GENERATOR # 55-57-58-59-64-66.



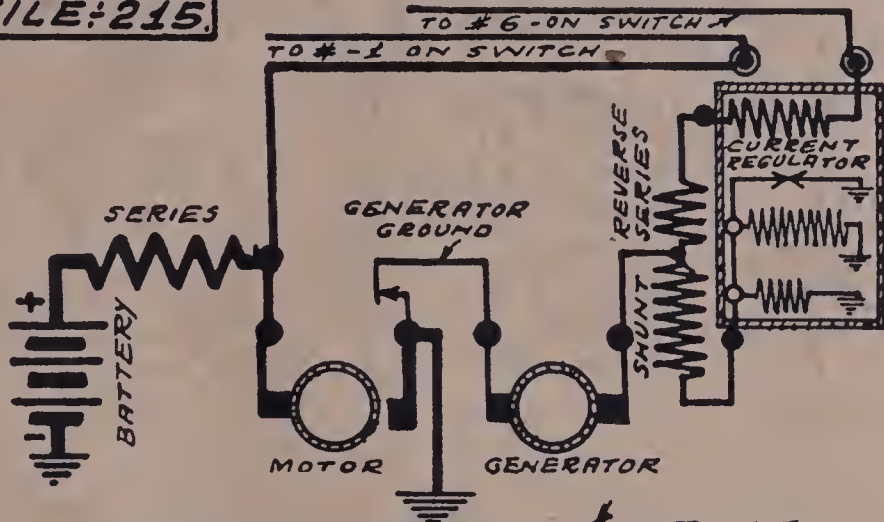
MOTOR-GENERATOR # 61-71

DELCO

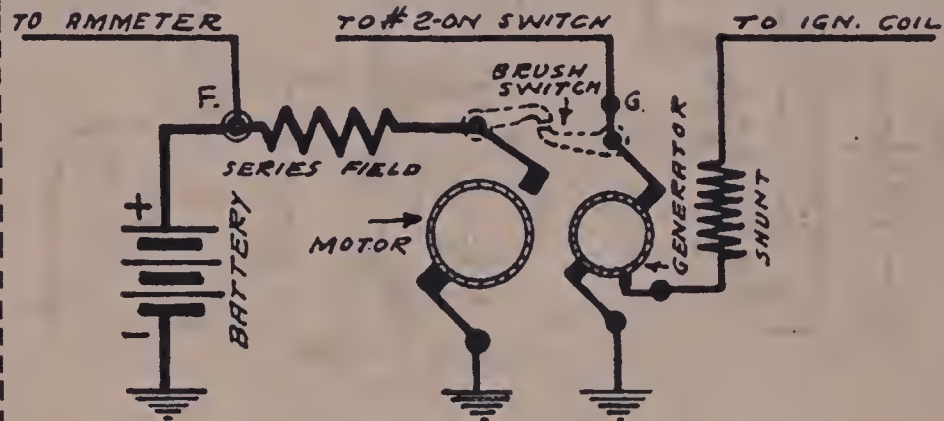
INTERNAL CIRCUITS

6-VOLTS

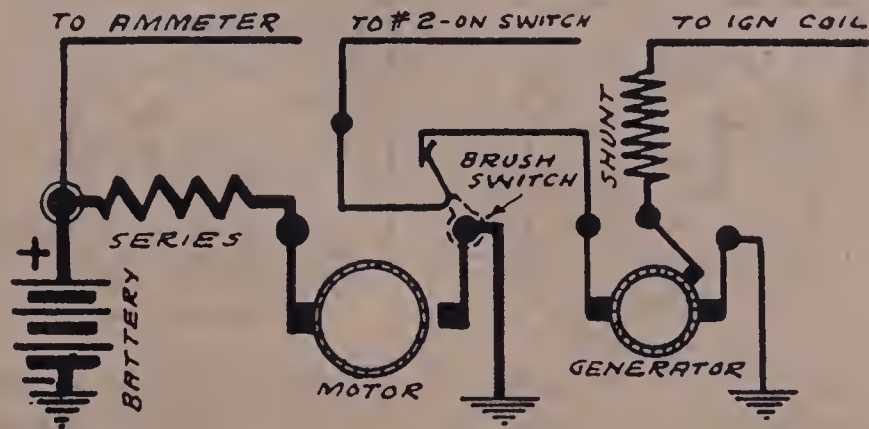
FILE#215



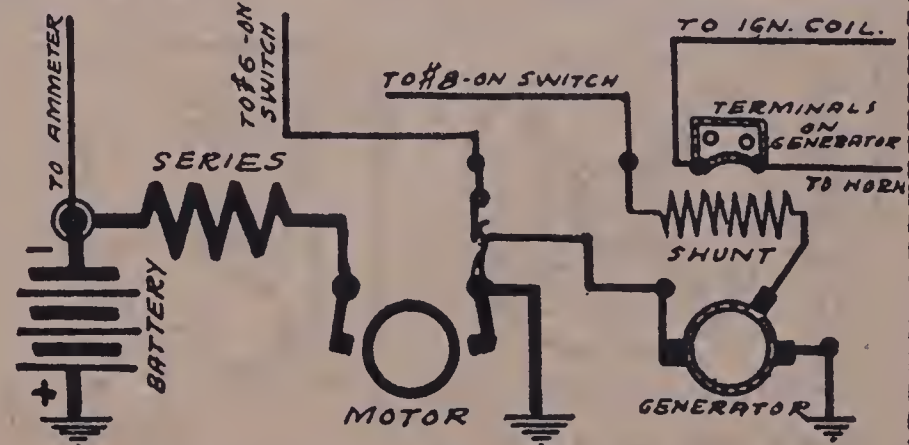
MOTOR-GENERATOR \$ 65, 77.



MOTOR-GENERATOR # 70, 94, 115.

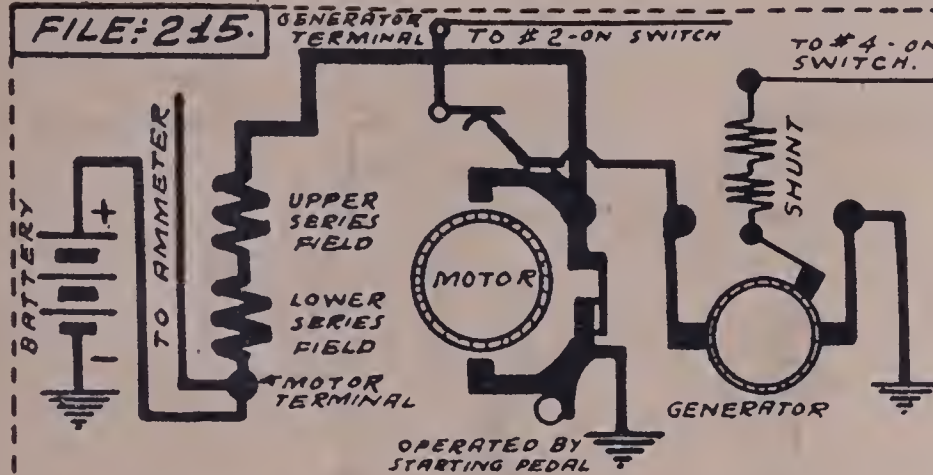


MOTOR-GENERATOR # 68, 69, 73, 75, 76, 81, 83, 93.

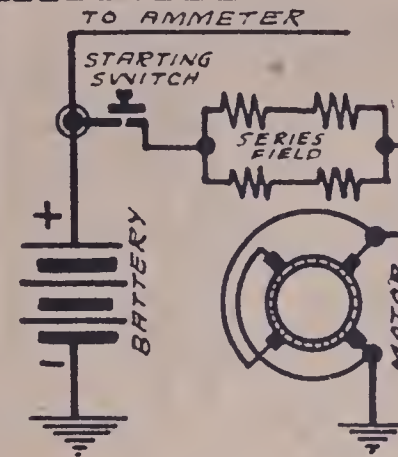


MOTOR-GENERATOR, - 78,98.

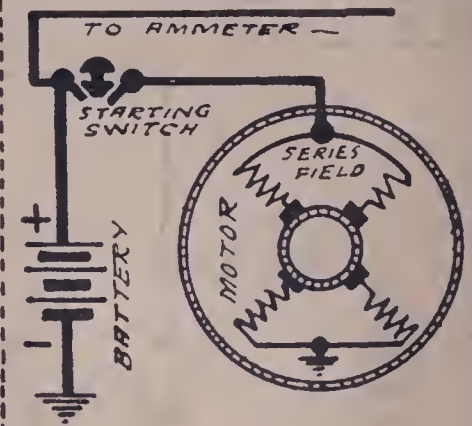
DELCO INTERNAL CIRCUITS 6-VOLTS.



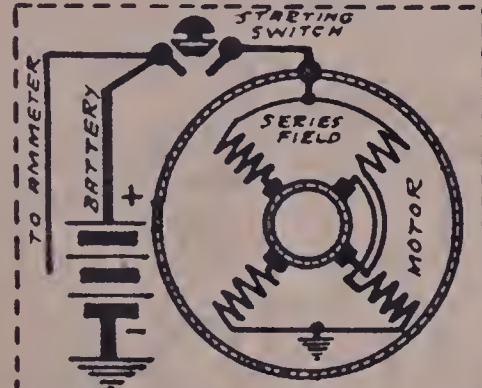
MOTOR-GENERATOR # 82, 112.



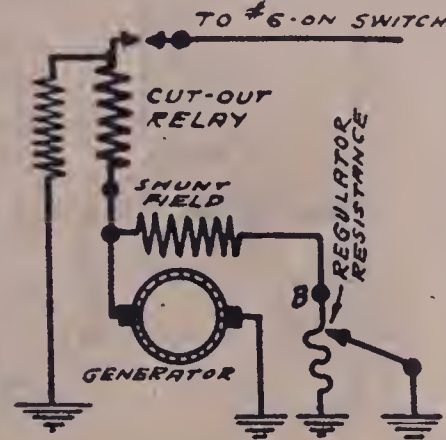
MOTOR # 63.



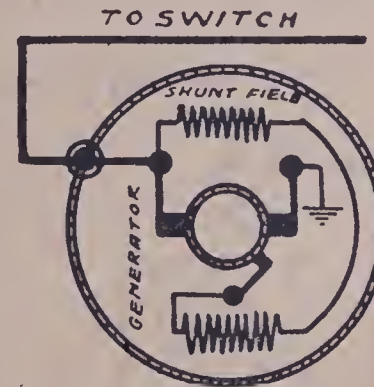
MOTOR # 136.



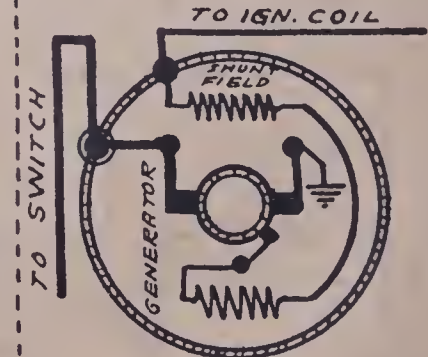
STARTING MOTOR NOS.
72, 85, 86, 91, 96, 97,
100, 102, 103, 104, 106,
107, 110, 126.



GENERATOR # 62.



GENERATOR NOS
84, 87, 89, 99, 101, 103,
114, 123, 125, 131, 134, 135,
137, 138.

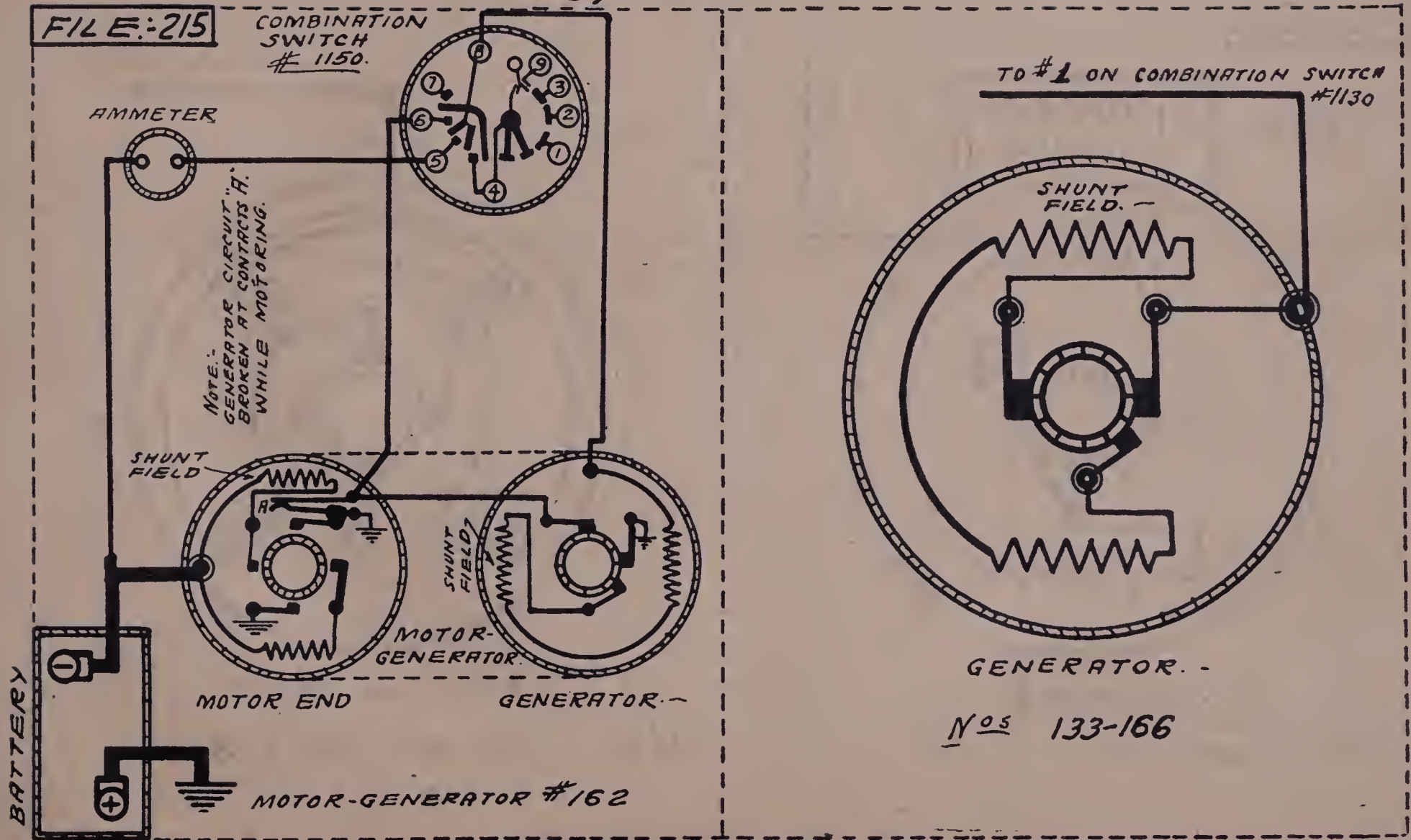


GENERATORS NO
95, 105, 109, 111, 113, 118.

DELCO

INTERNAL CIRCUITS

6 VOLTS.

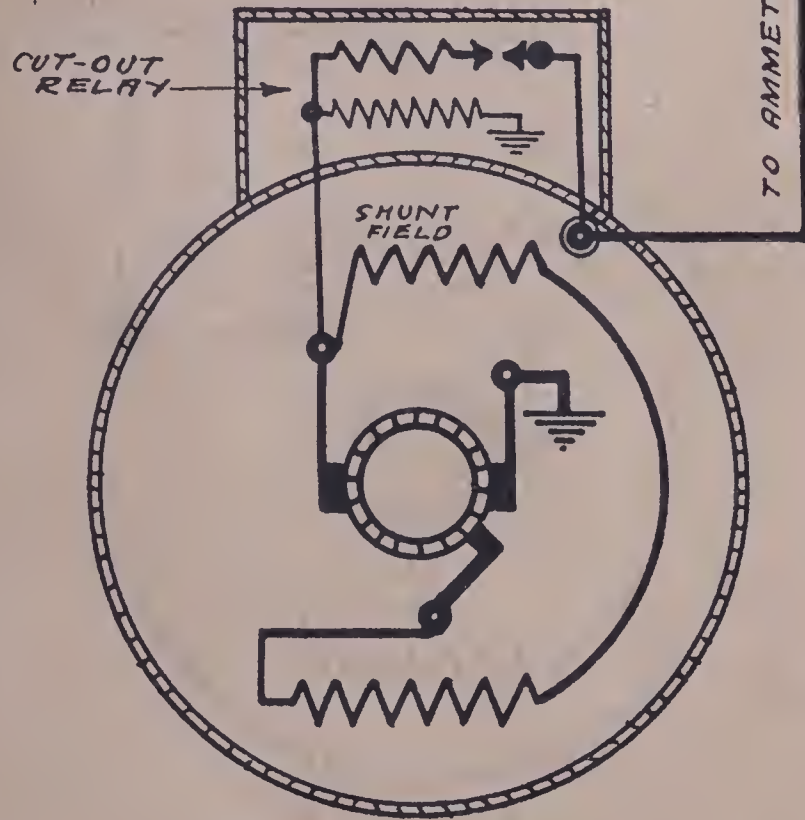


DELCO

INTERNAL CIRCUITS.

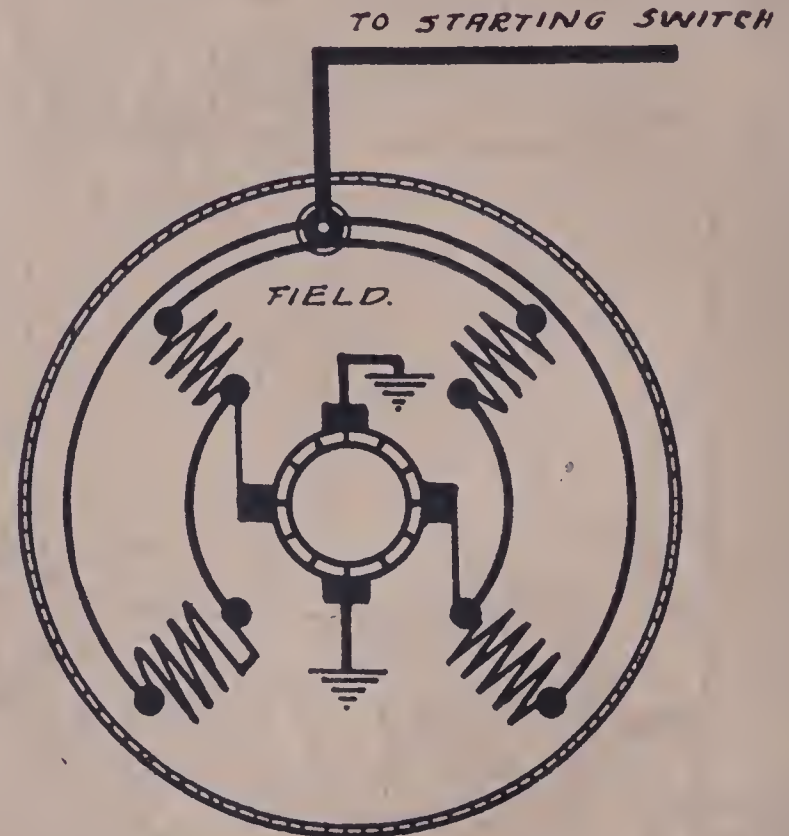
6-VOLTS.

FILE: 215



GENERATOR -

Nos 165-168-169-176-180

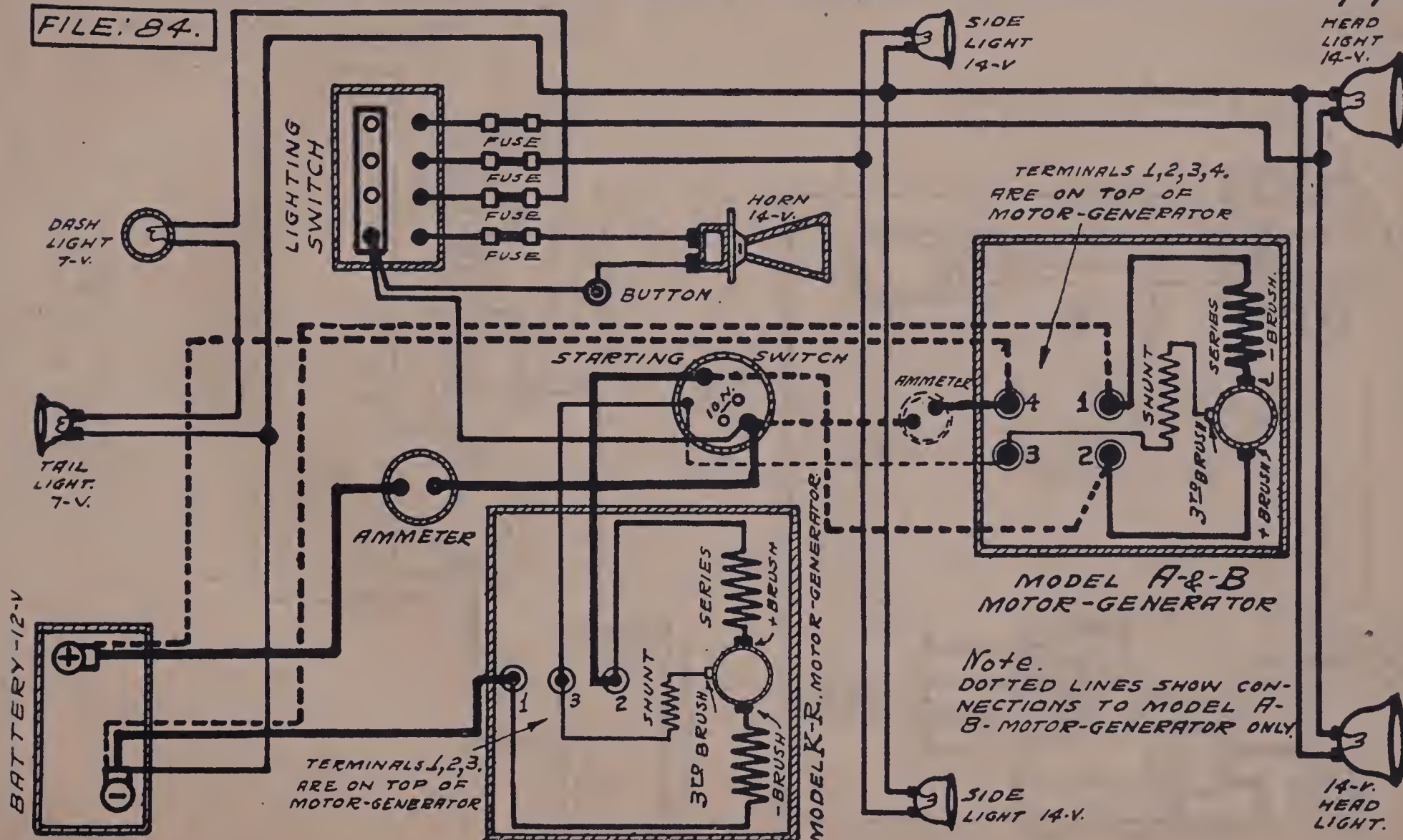


STARTING MOTOR -

Nos 130.-161.-170.-172.

DYNETO

12-VOLT, - SINGLE UNIT, STANDARD WIRING.
SHOWING INTERNAL WIRING OF MOTOR-GENERATOR MODELS A,B,KR.



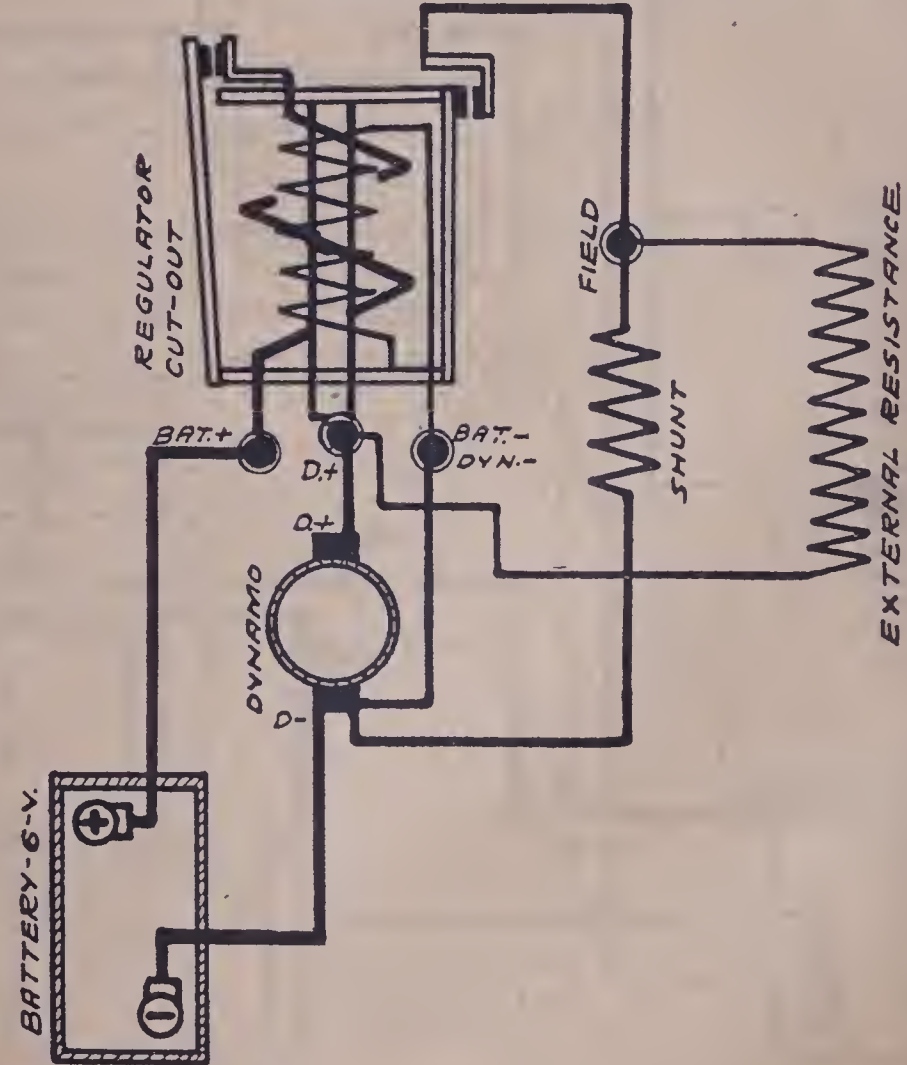
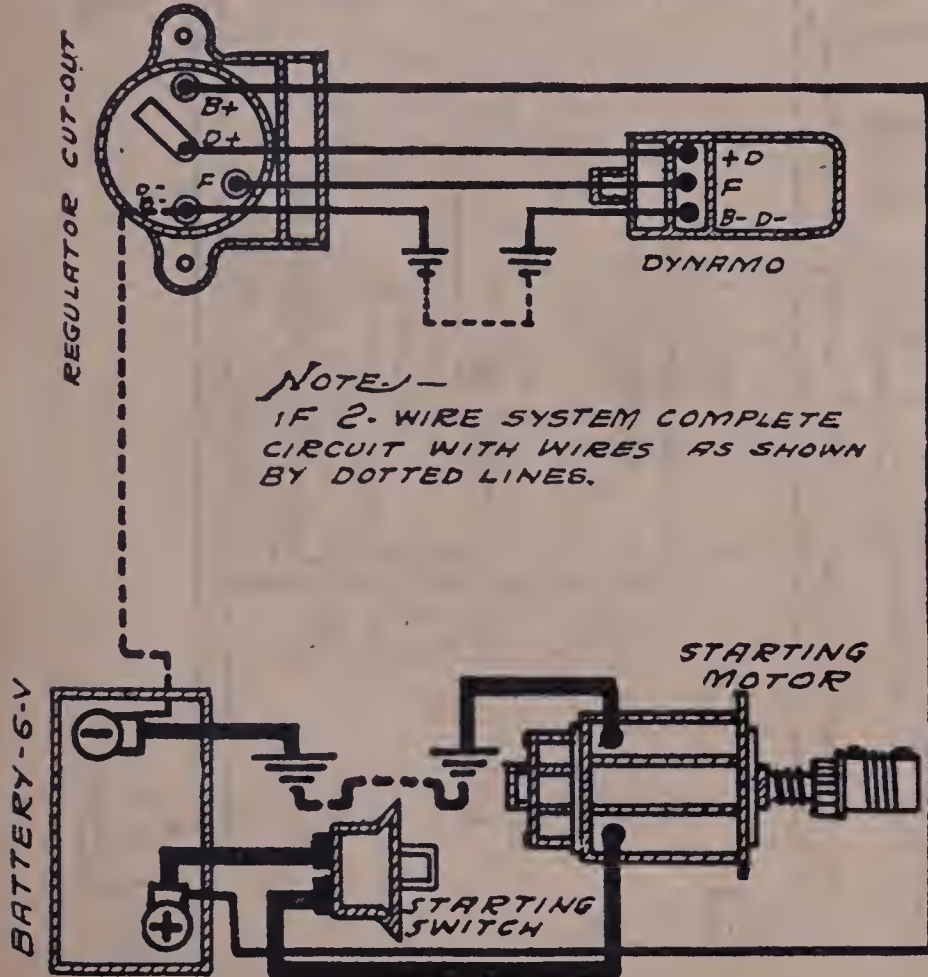
DYNETO

6-VOLT - TWO UNIT SYSTEM
TYPE V-A-DYNAMO. TYPE U-A, STARTING MOTOR

FILE: 85.

VIEW SHOWING INTERNAL WIRING OF
REGULATOR-CUT-OUT.

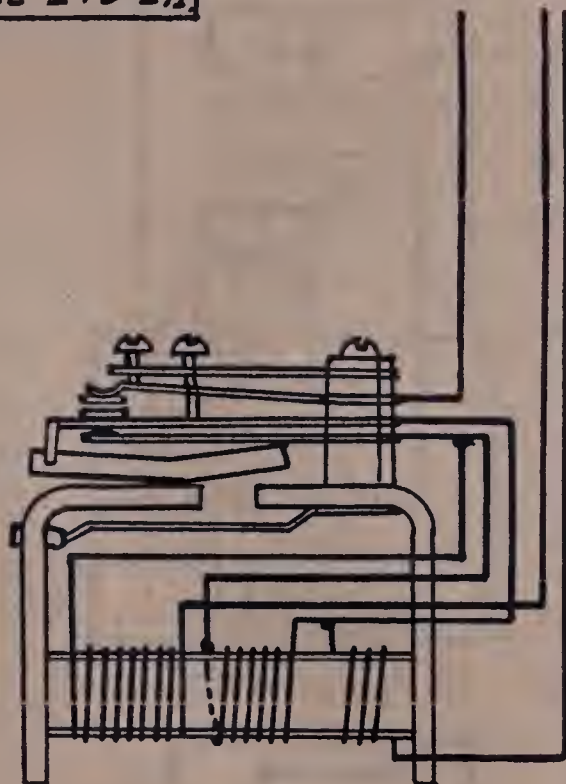
VIEW SHOWING WIRING OF
TWO UNIT SYSTEM.



ESTERLINE

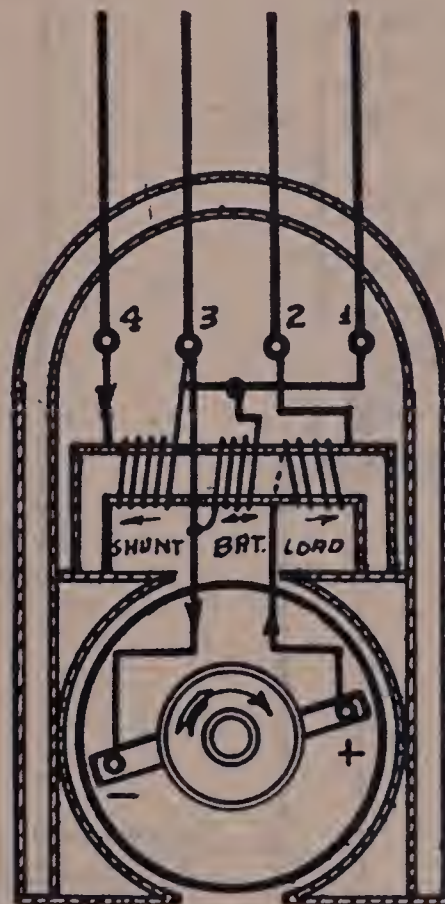
INTERNAL CIRCUITS

FILE-170-171



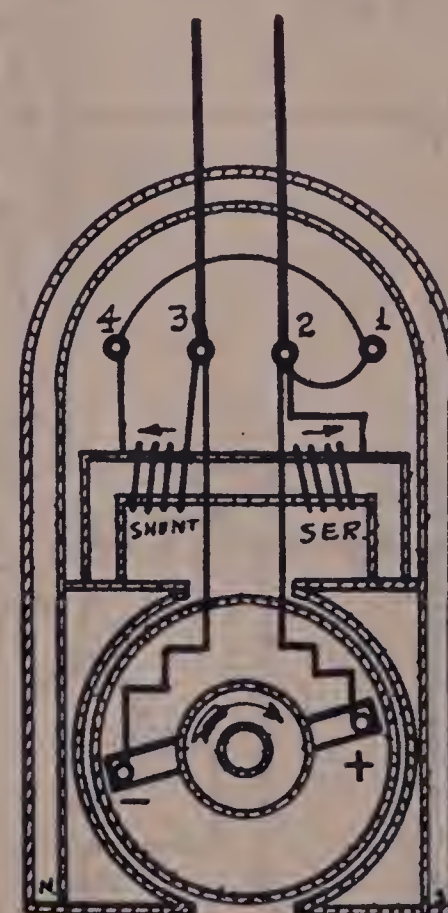
SERIES B-
CONTROLLER

USED ON ALL 1914 KISSEL KARS



GENERATOR

USED ON MODELS F, D, KISSEL KAR



GENERATOR -

USED ON MODEL-H-KISSEL KAR

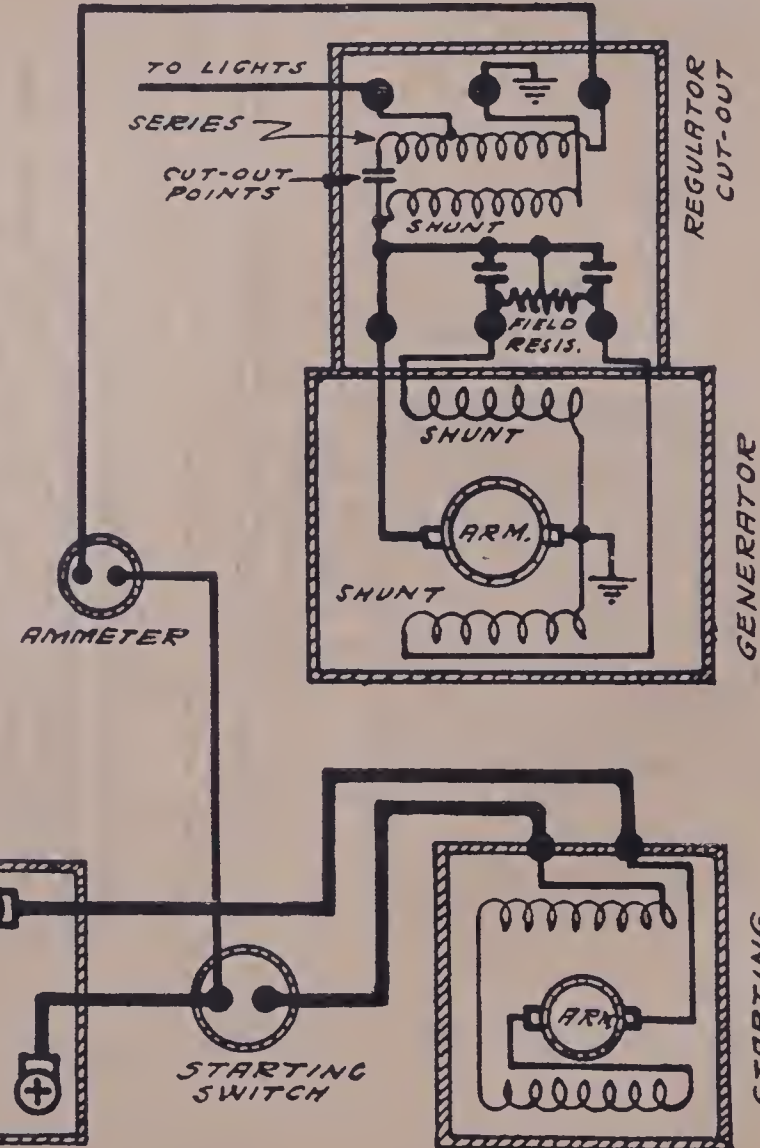
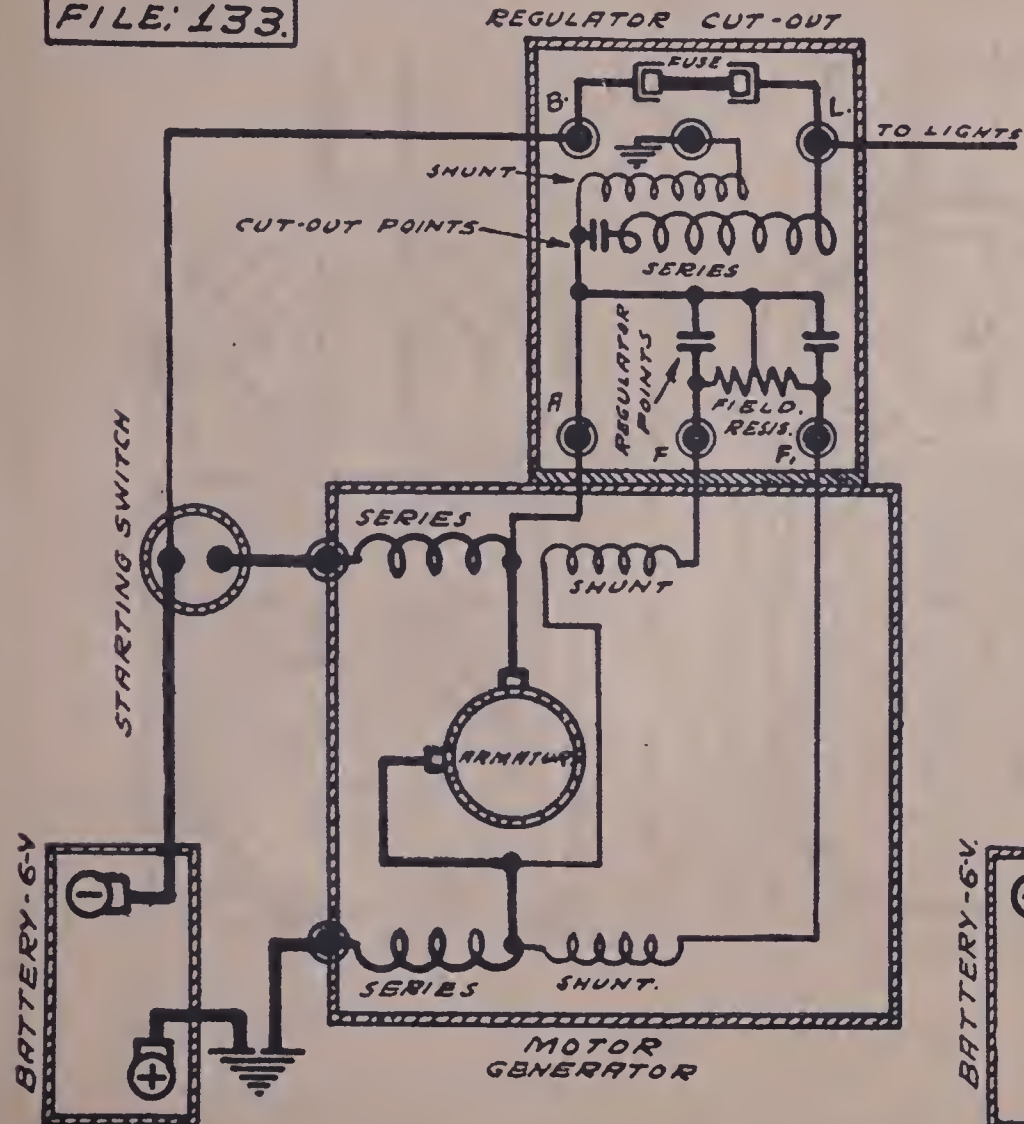
GRAY & DAVIS

INTERNAL WIRING

SINGLE UNIT SYSTEM

Y-T-TWO-UNIT SYSTEM.

FILE: 133.



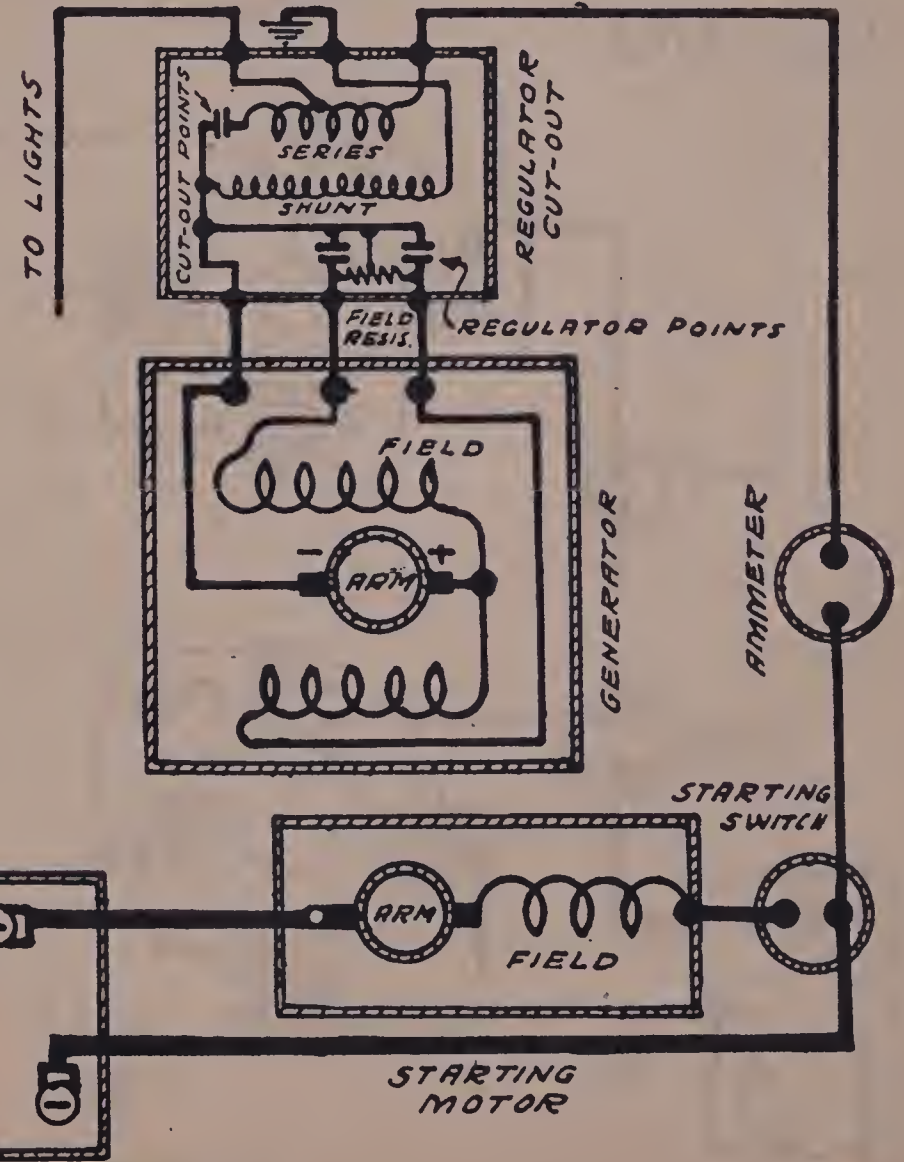
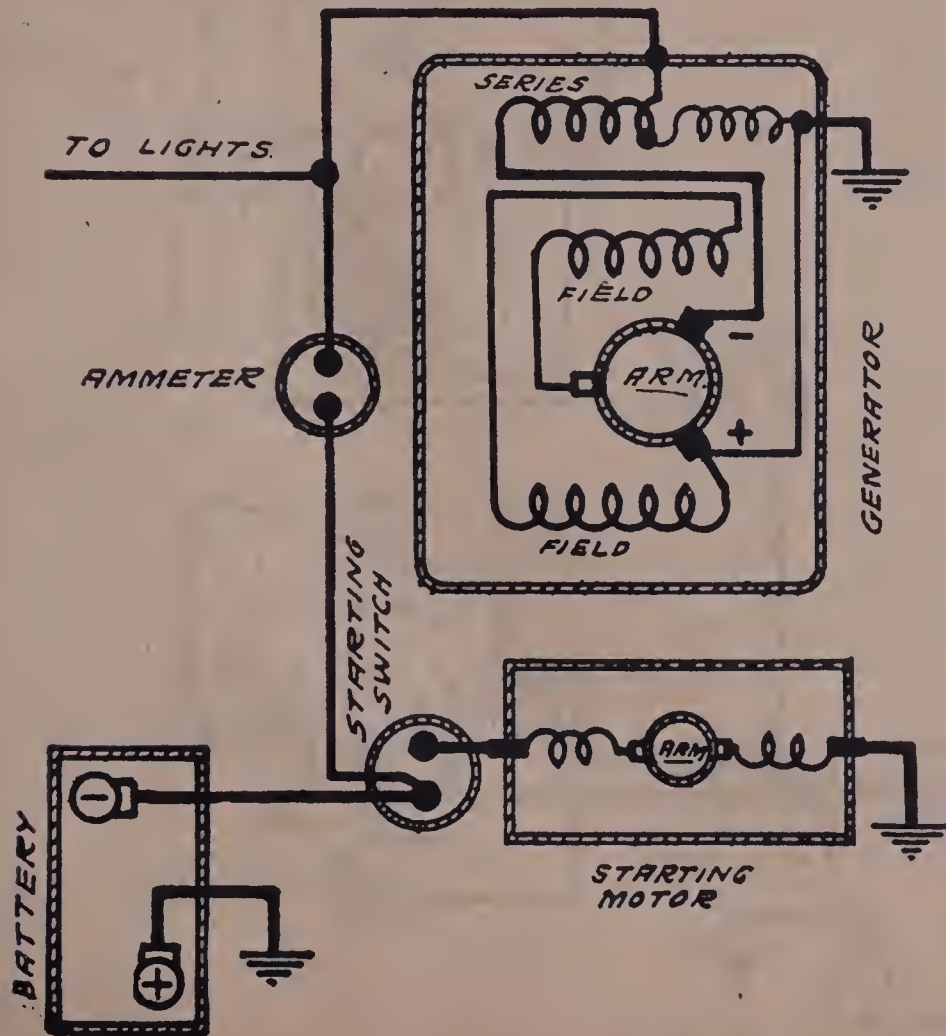
GRAY & DAVIS

INTERNAL WIRINGS

2-UNIT-3RD. BRUSH REGULATION.

Y-T AND YS-2-UNIT SYSTEM.

FILE: 134.



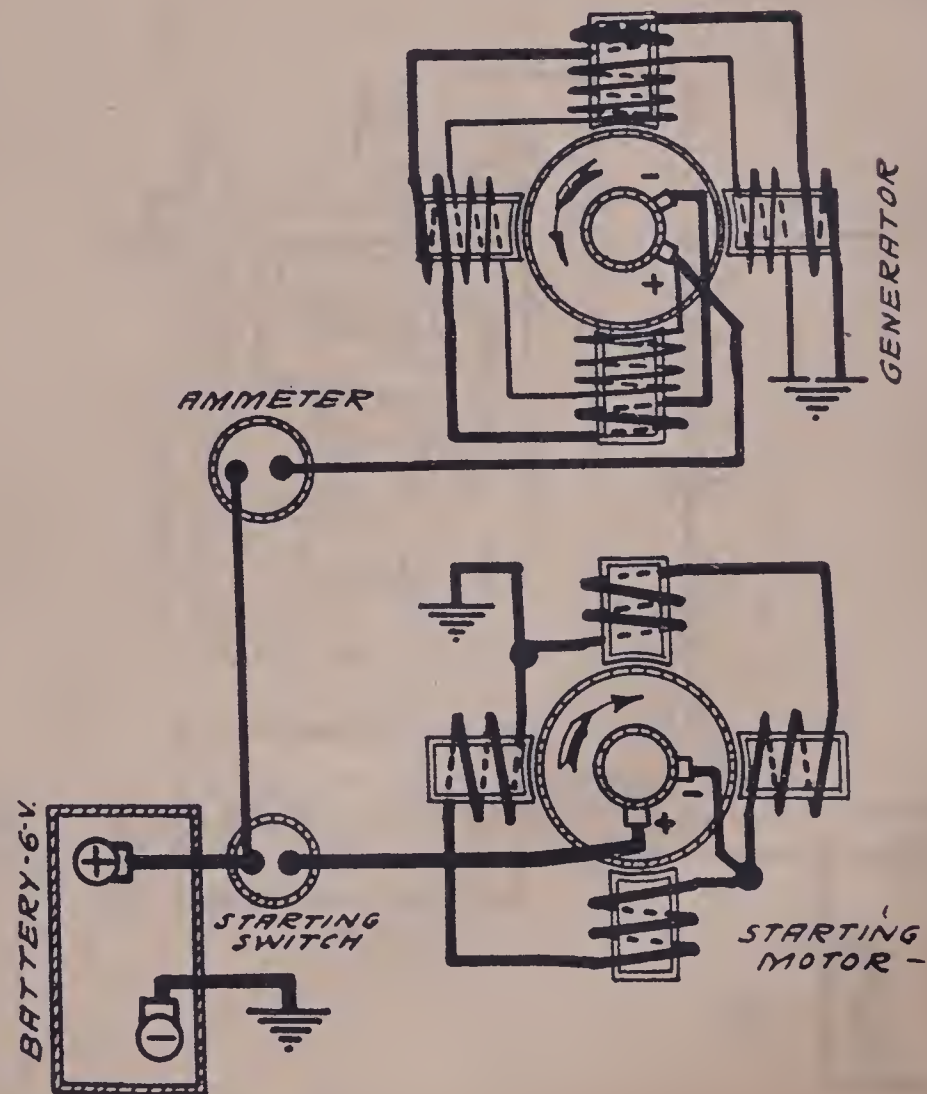
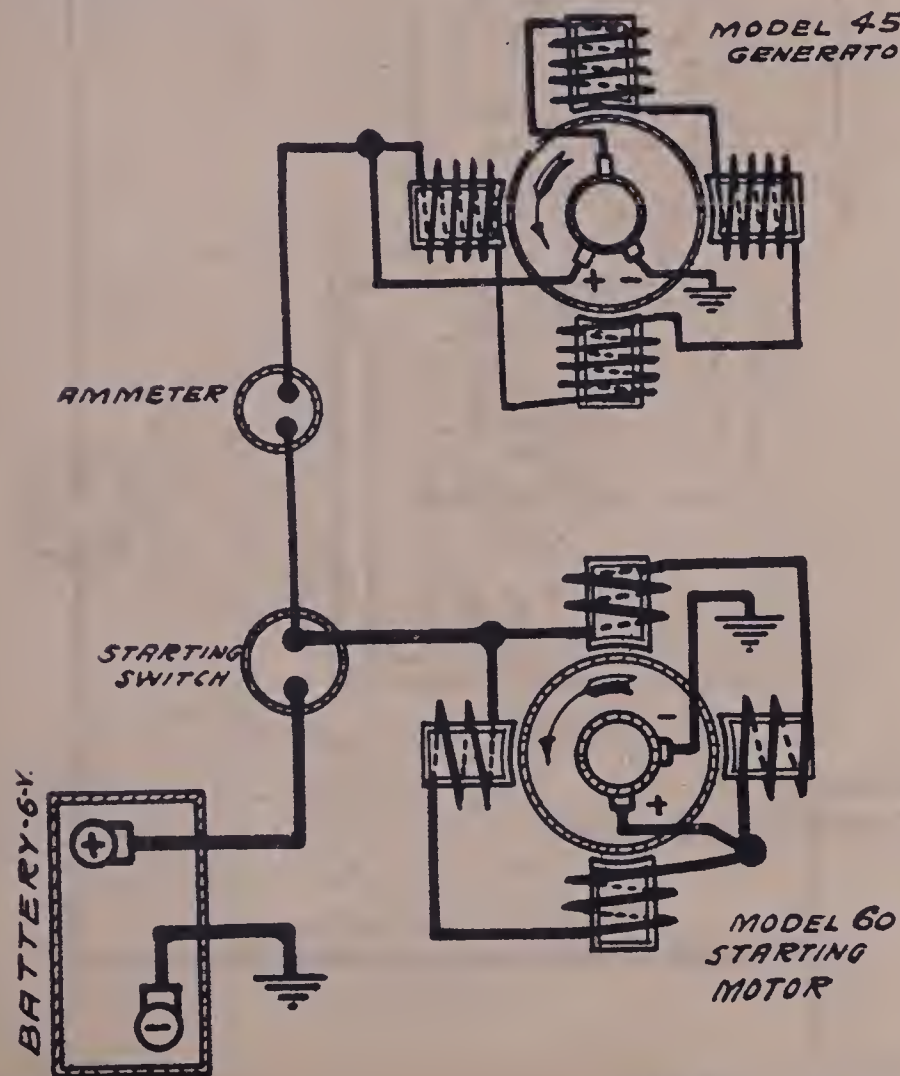
HEINZE-SPRINGFIELD

INTERNAL CIRCUITS.

MODEL-60-MOTOR, MODEL-45-3RD. BRUSH
GENERATOR.

MODEL 33-SYSTEM.

FILE:-136.

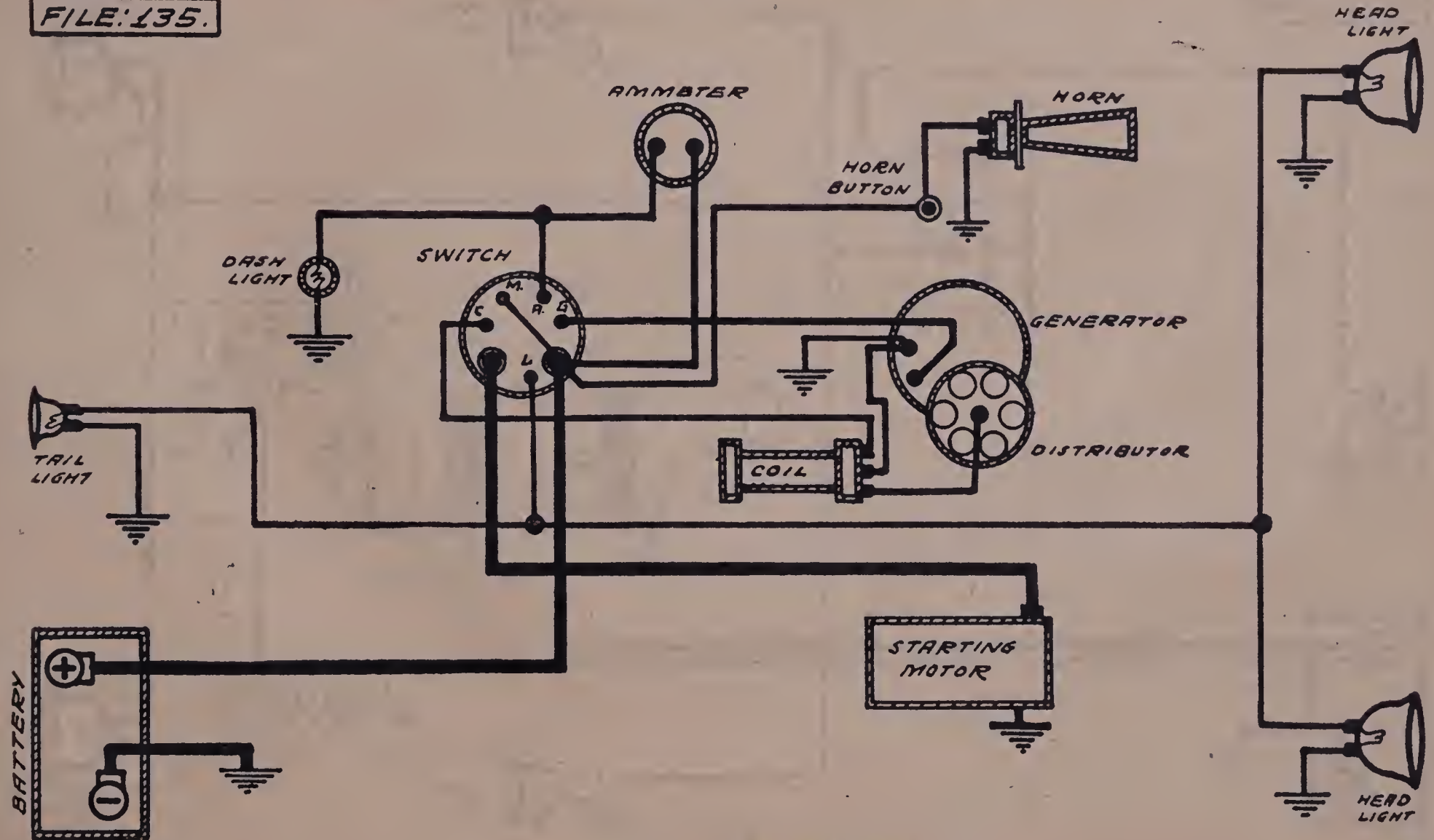


HEINZE-SPRINGFIELD

LAYOUT WIRING

MODEL 60-MOTOR MODEL 45-GENERATOR.

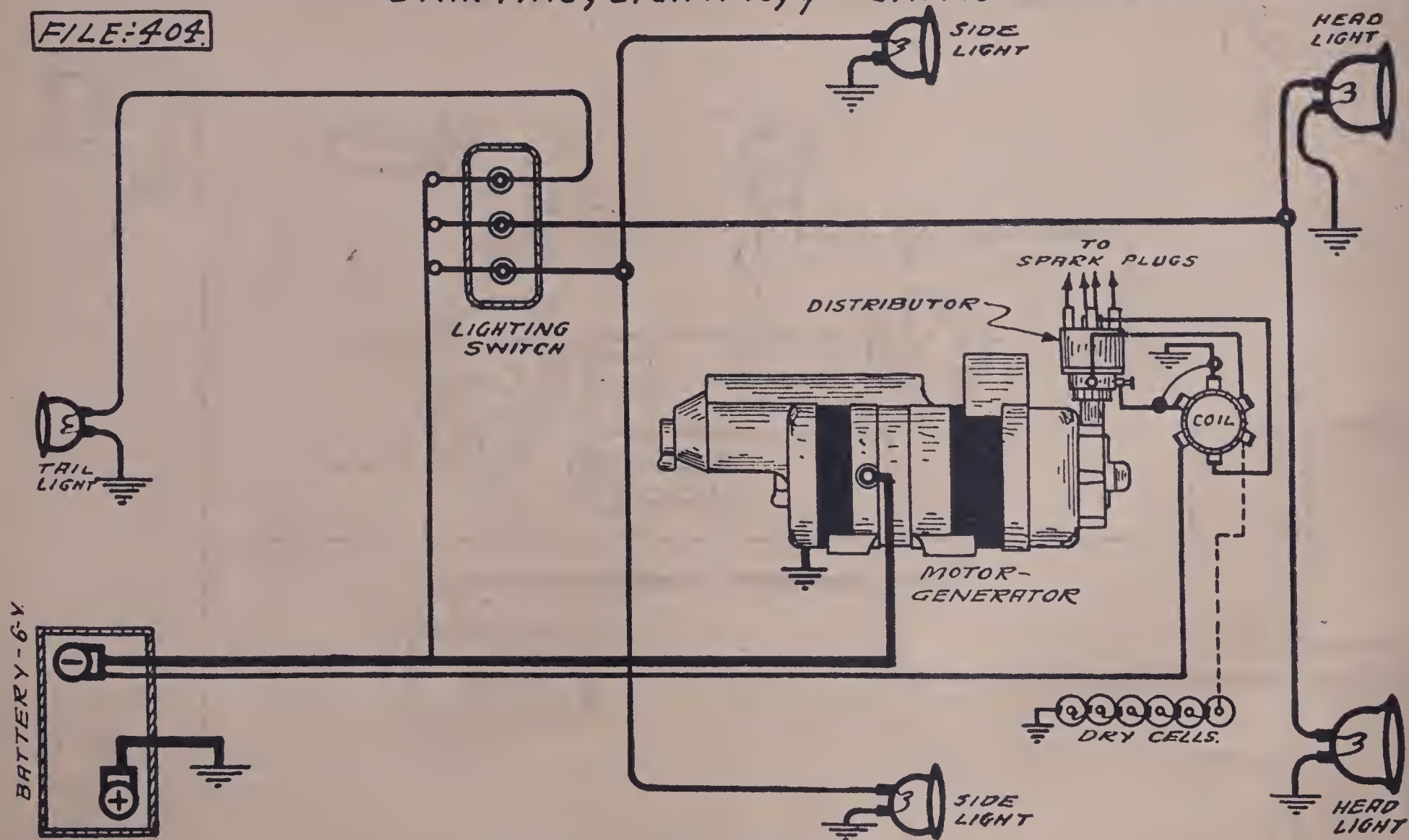
FILE 135.



JESCO

STANDARD WIRING DIAGRAM OF 6-VOLT, MODEL VII STARTING, LIGHTING, & IGNITION SYSTEM.

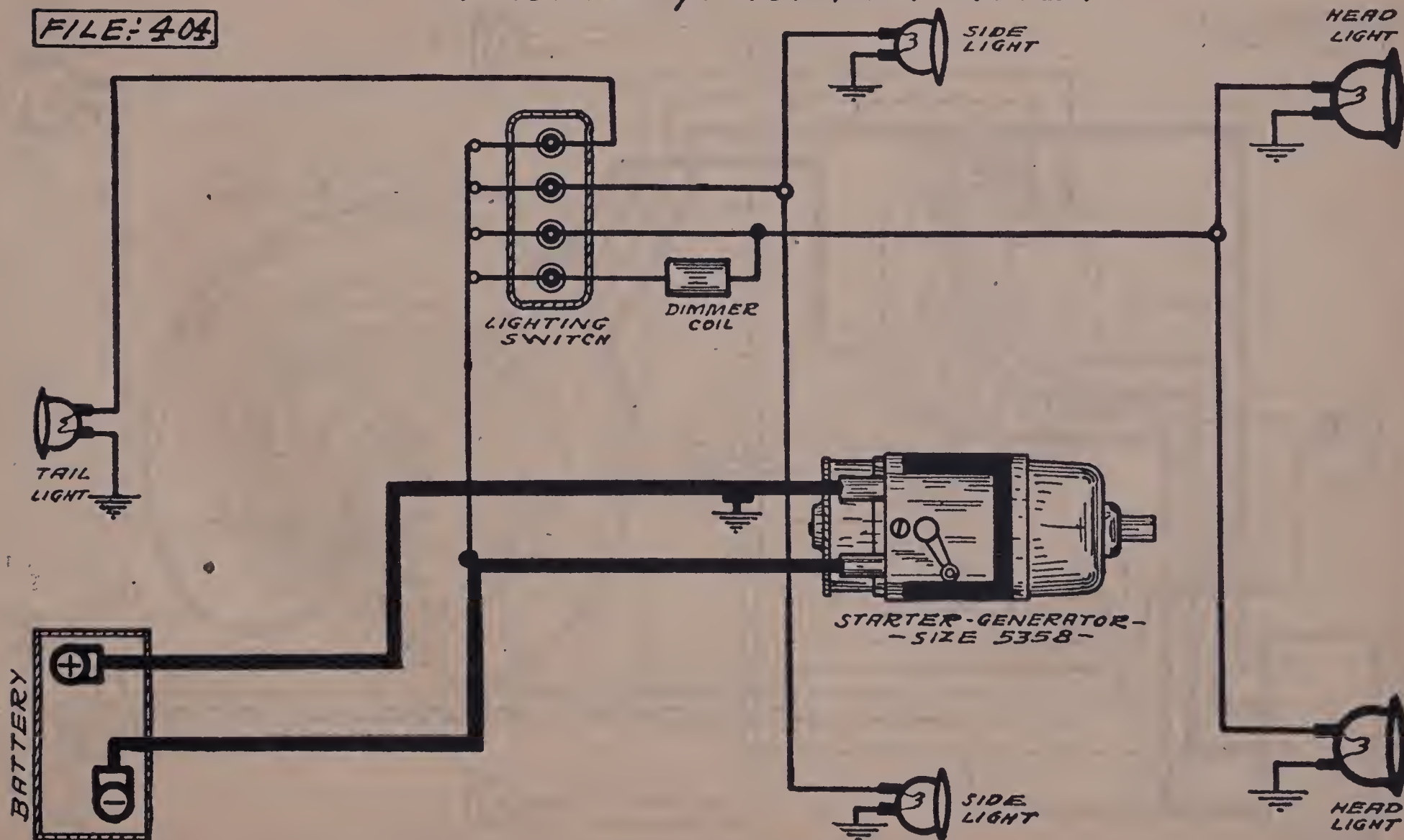
FILE:404.



JESCO

STANDARD WIRING DIAGRAM OF 6-VOLT, MODEL 5358 STARTING & LIGHTING SYSTEM.

FILE: 404

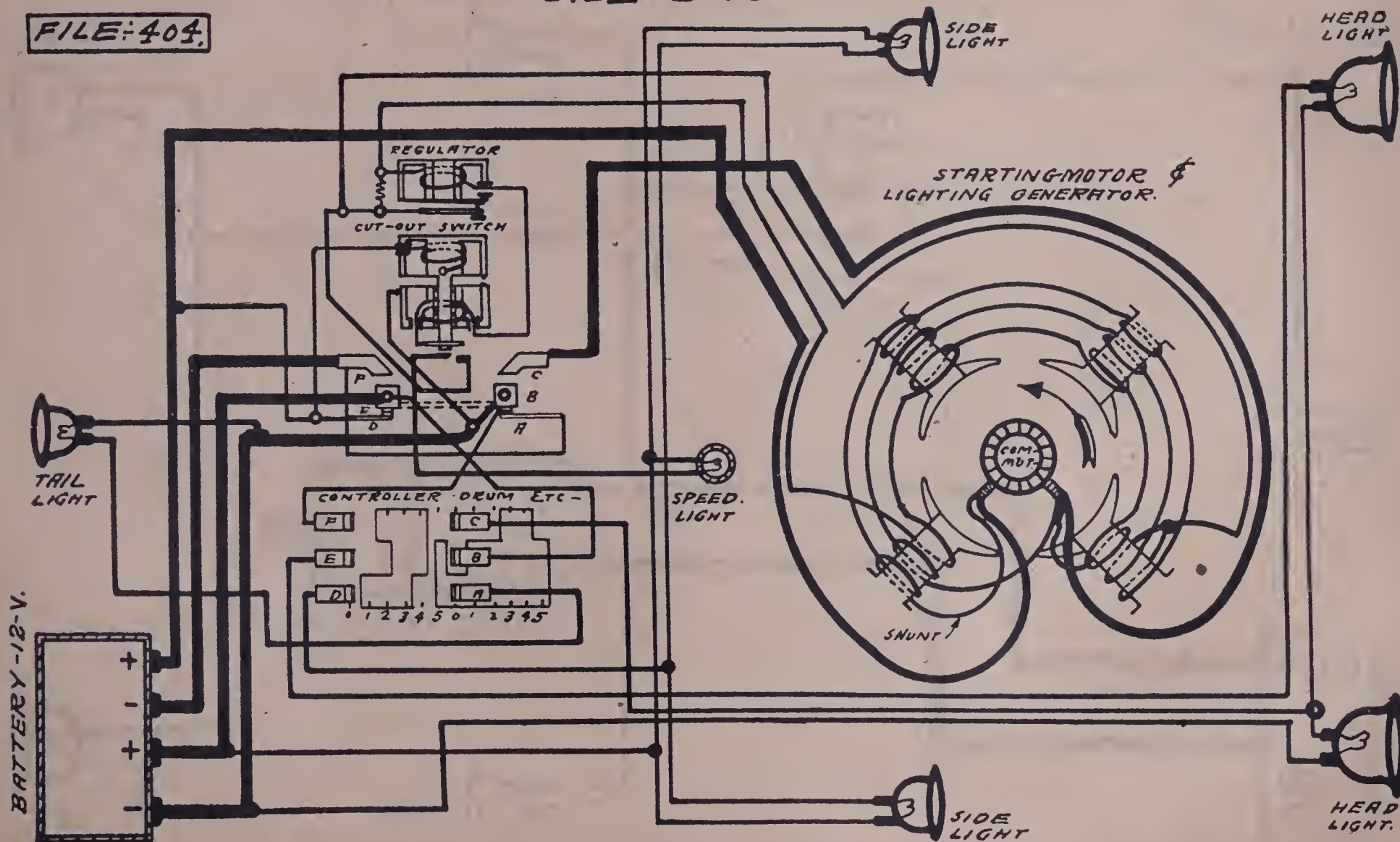


JESCO

DIAGRAM OF INTERNAL CIRCUITS.

SIZE 3-13-

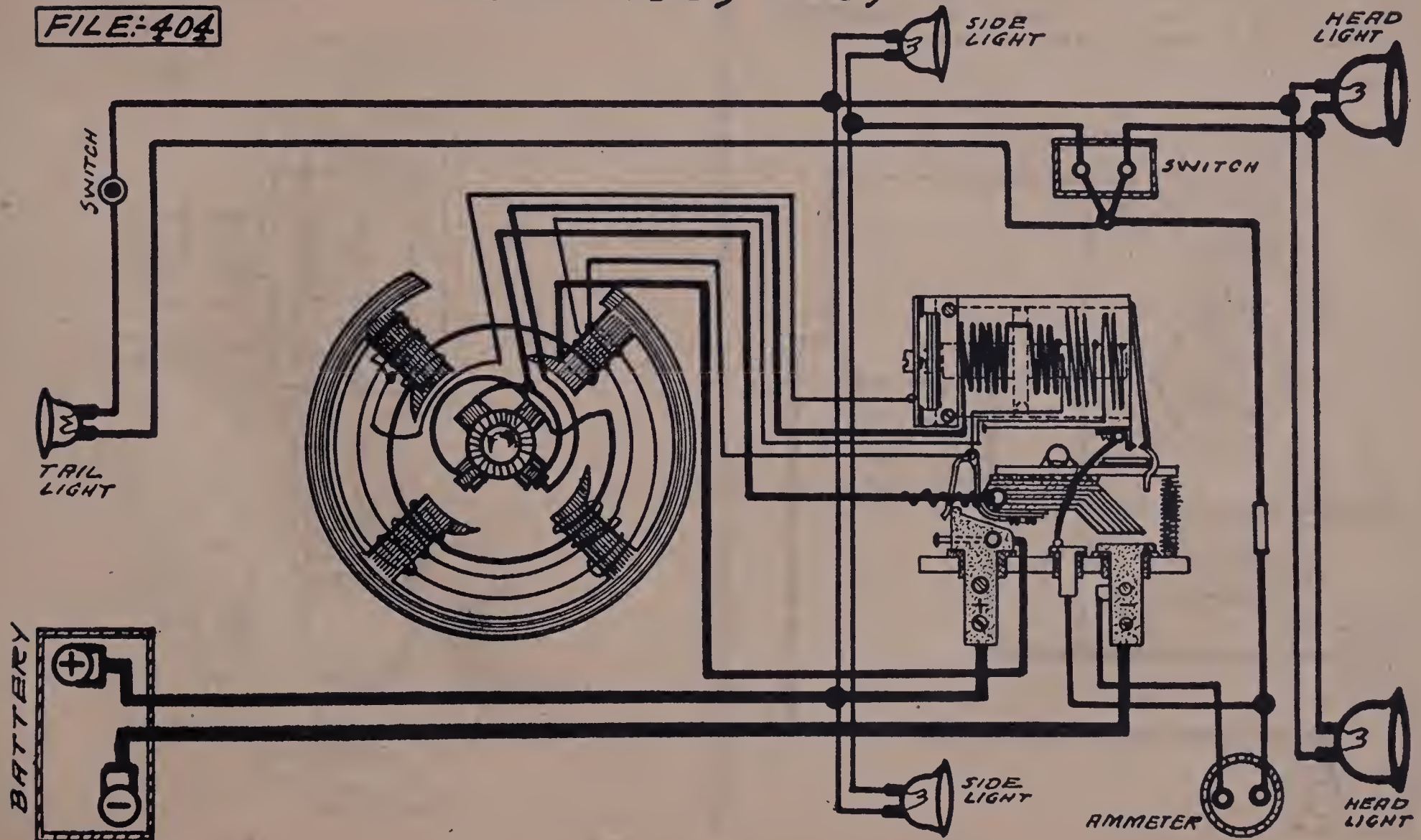
FILE: 404.



JESCO

DIAGRAMS OF CONNECTIONS 6-VOLT-STARTING & LIGHTING SYSTEM.
MODELS 3418, 5358, 5700.

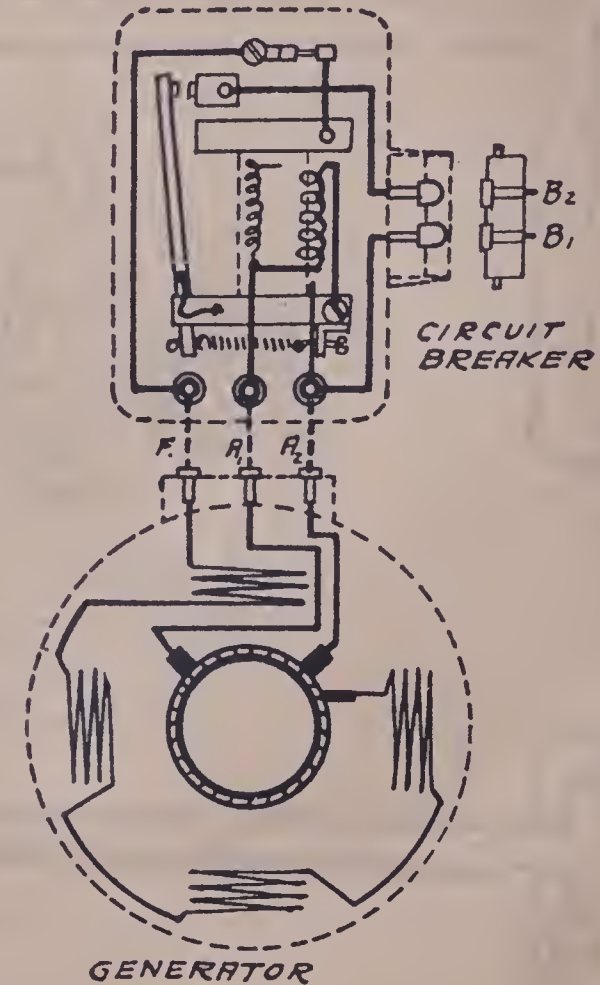
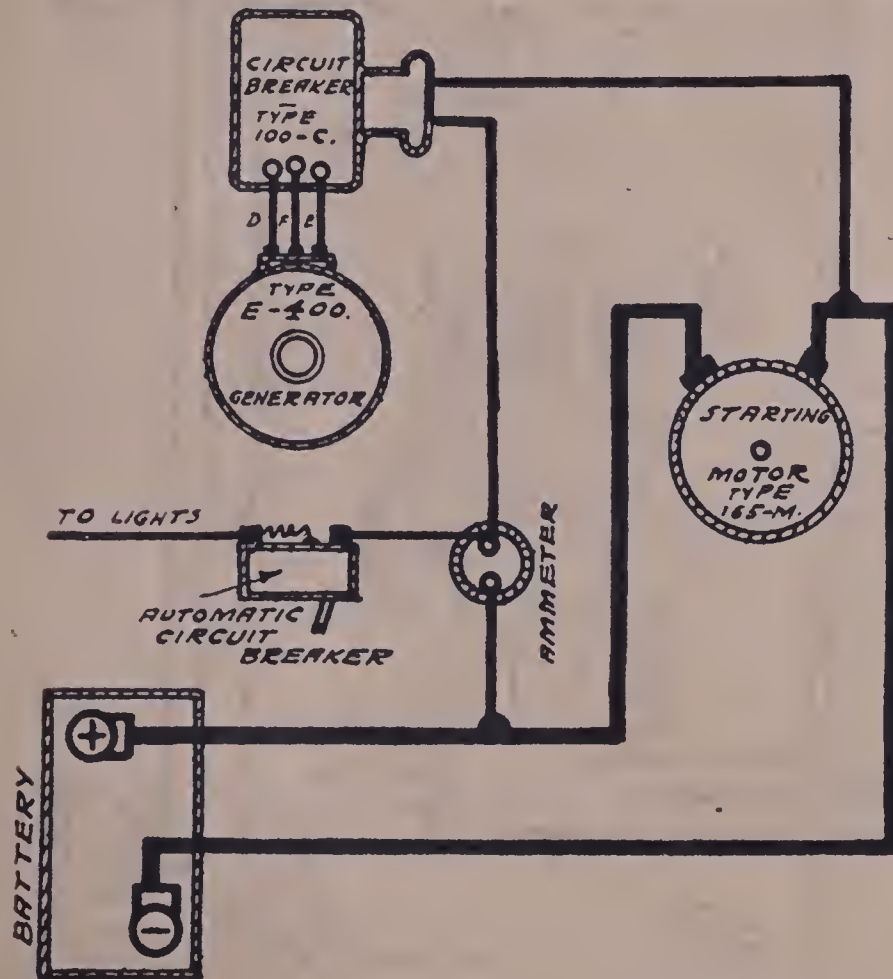
FILE: 404



LEECE-NEVILLE.

DIAGRAM OF ELECTRICAL CIRCUITS
BETWEEN STARTING MOTOR, GENERATOR,
FILE: 377. CIRCUIT BREAKER, AMMETER
AND STORAGE BATTERY.

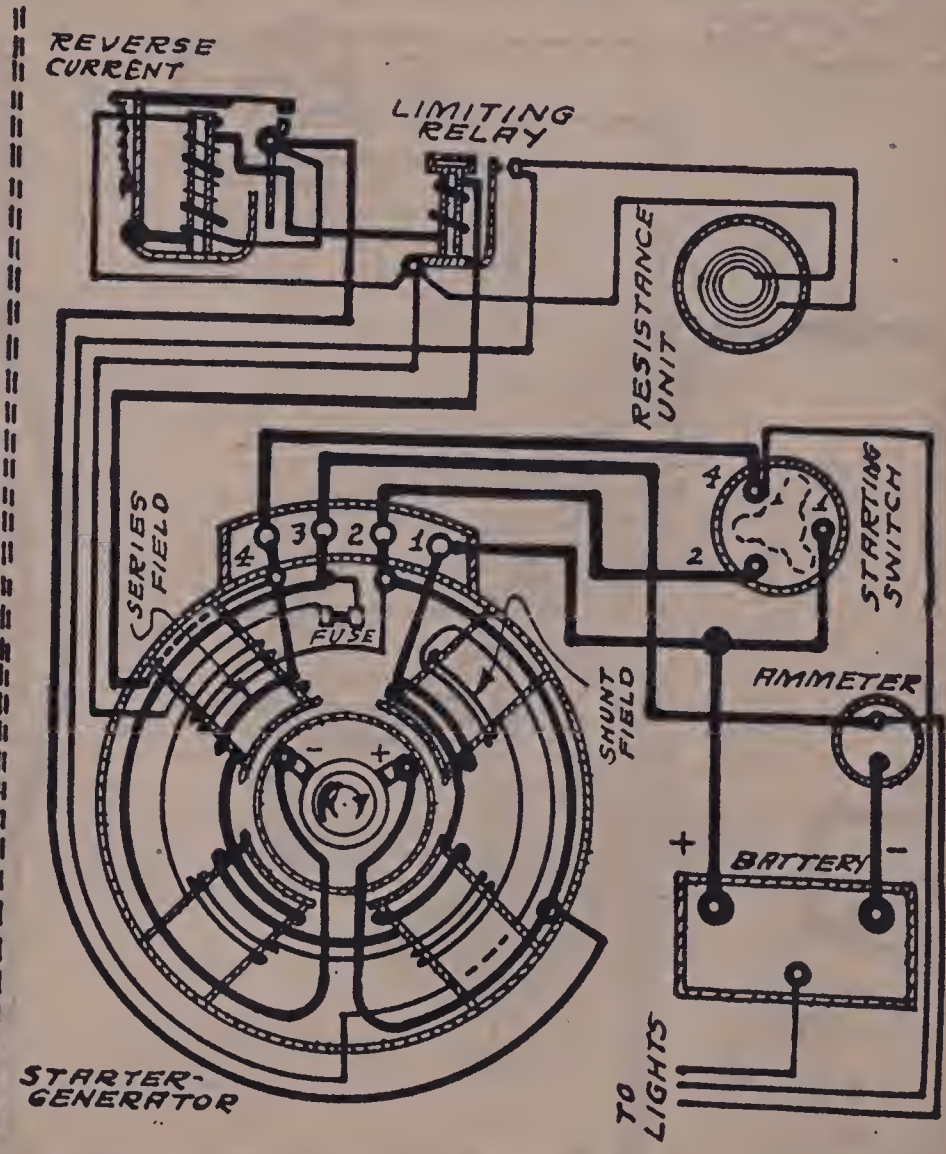
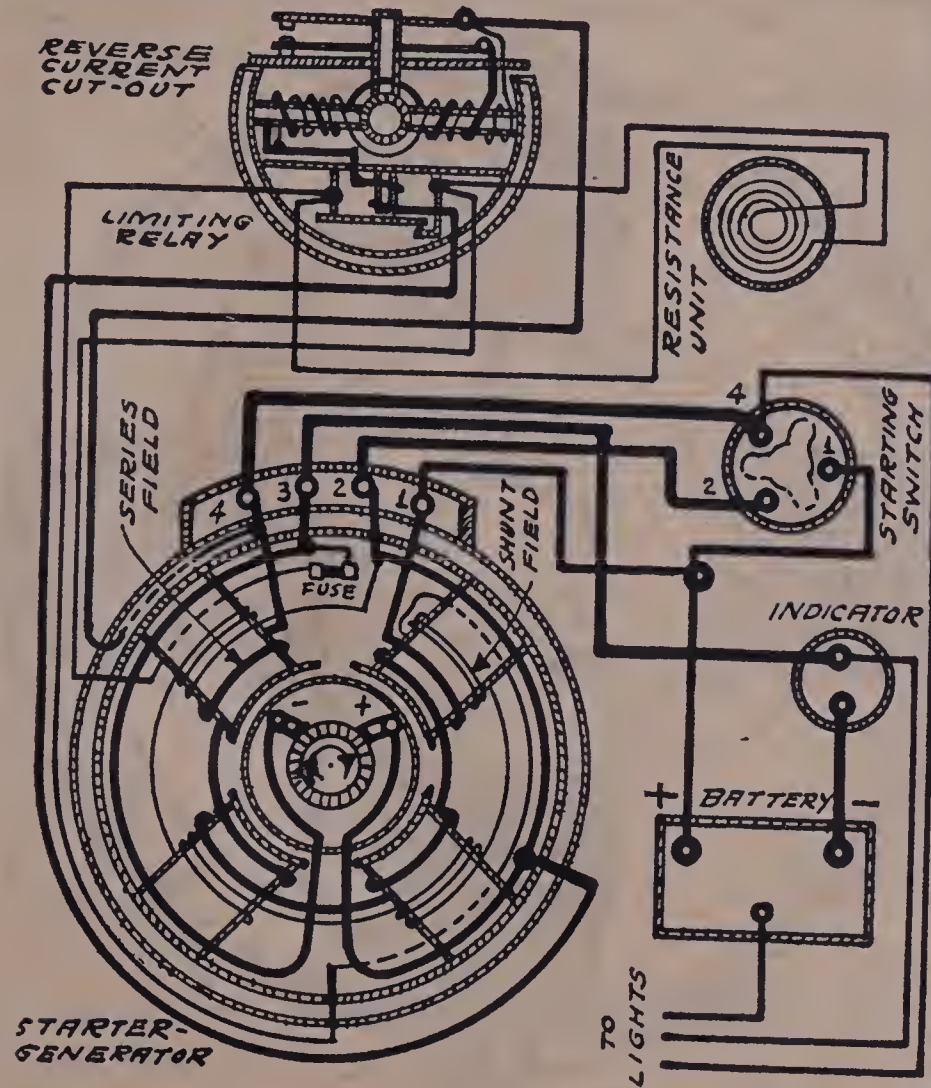
WIRING DIAGRAM OF GENERATOR
AND CIRCUIT BREAKER CIRCUITS.



NORTH-EAST

MODEL-A-INTERNAL CIRCUITS
WITH POLARIZED RELAY TYPE START-GEN.

FILE:367.



NORTH-EAST

INTERNAL CIRCUITS

STARTER-GENERATOR-8100. STARTING SWITCH AND CUT-OUT.

FILE: 394

TO LIGHTS, HORN,
ETC.

CHARGING
INDICATOR

REVERSE-
CURRENT
CUT-OUT

STARTING
SWITCH
CONTACTS

BATTERY -12V.

TO STARTING SWITCH

STARTER-
GENERATOR

SERIES
FIELD
WINDING

MAIN
BRUSHES

3RD. BRUSH

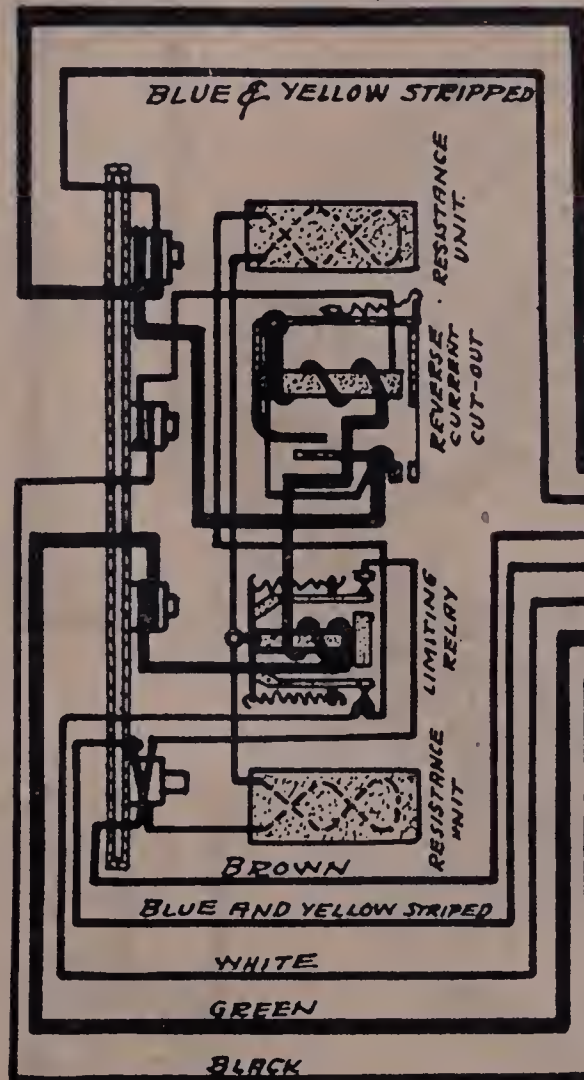
GROUND
STRAP

SHUNT FIELD
WINDING

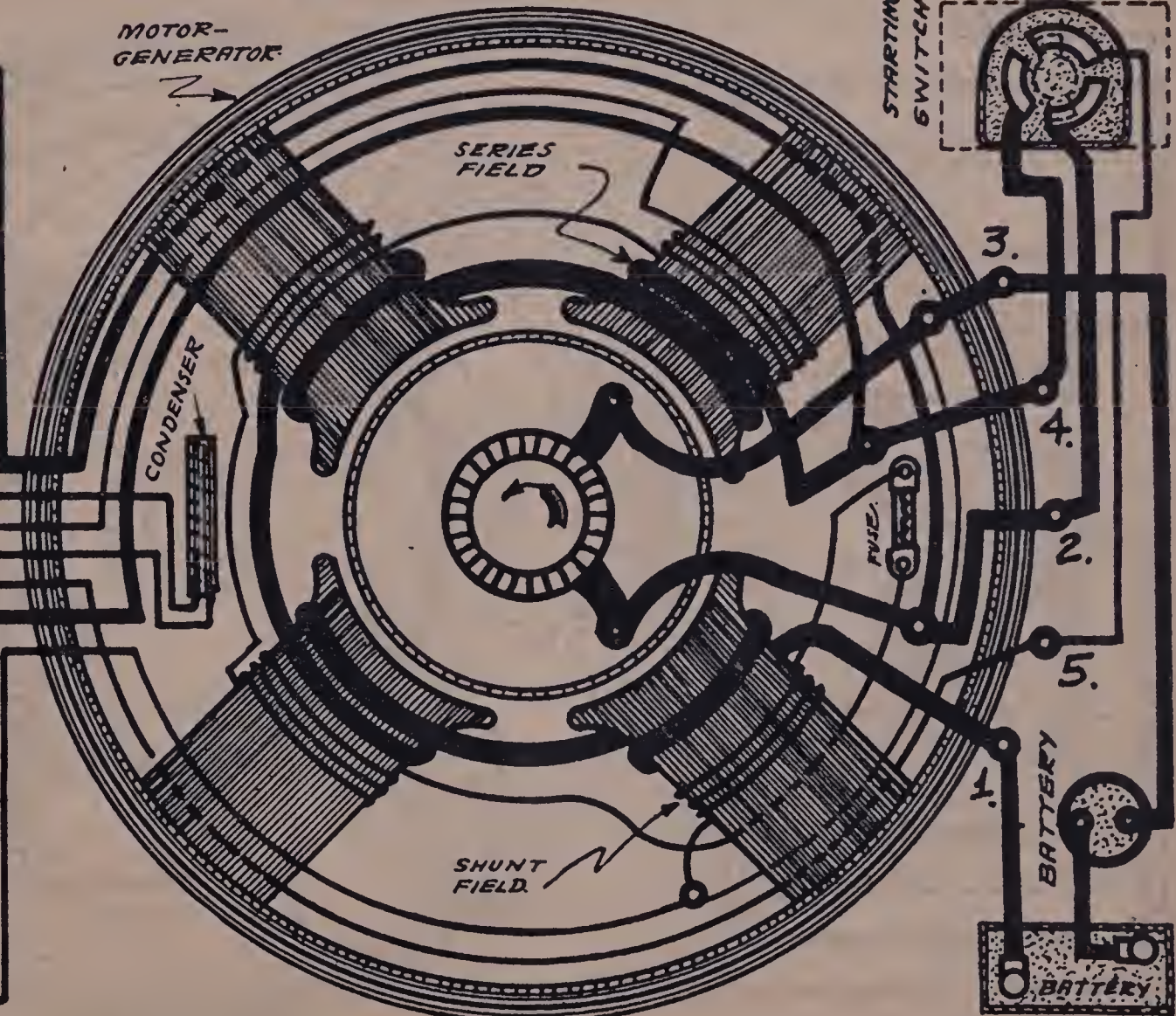
NORTH-EAST. INTERNAL CIRCUITS MODEL B-SYSTEM.

FILE: 395

RED



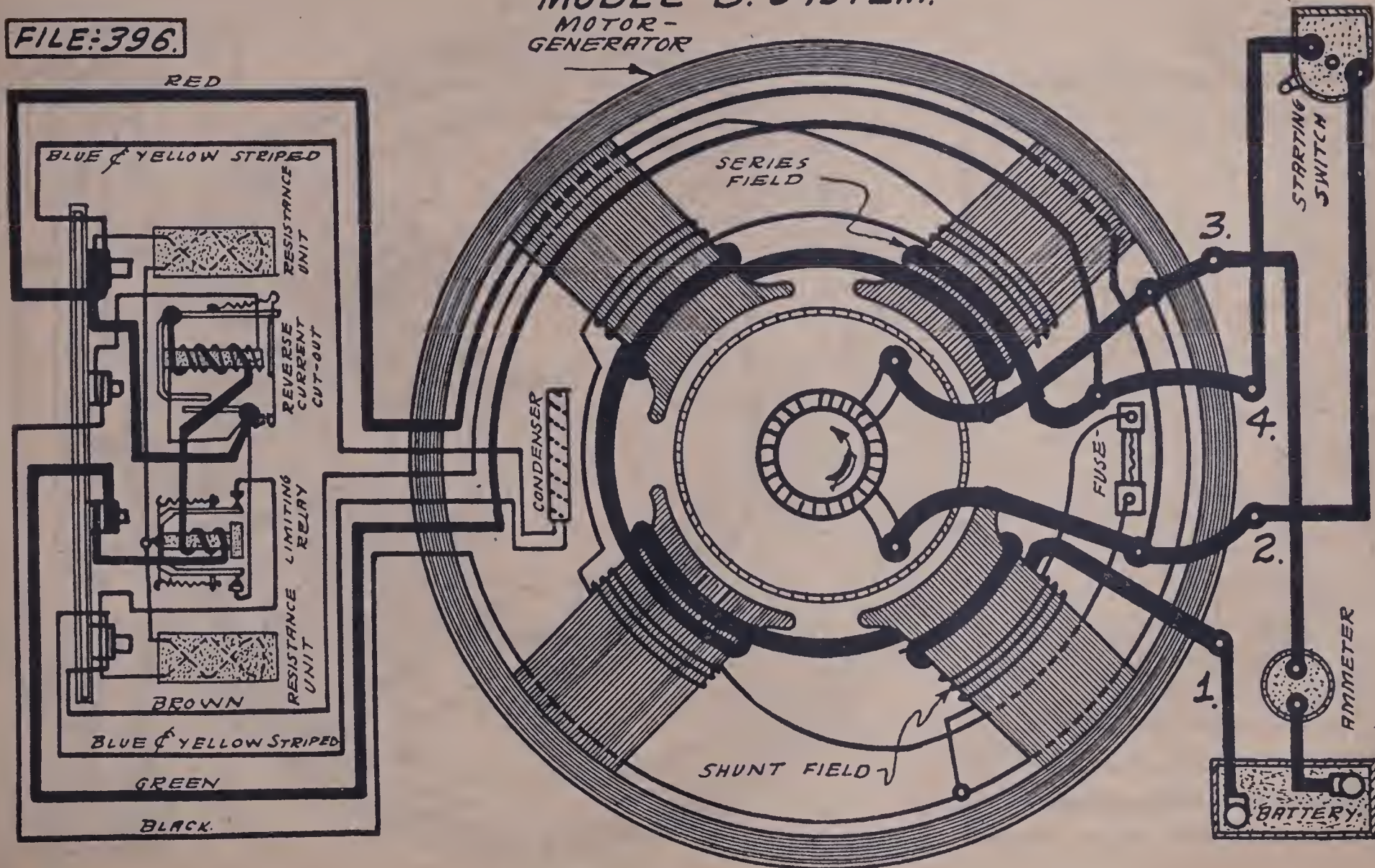
MOTOR-
GENERATOR



NORTH-EAST INTERNAL CIRCUITS MODEL D. SYSTEM.

MOTOR-
GENERATOR

FILE:396.

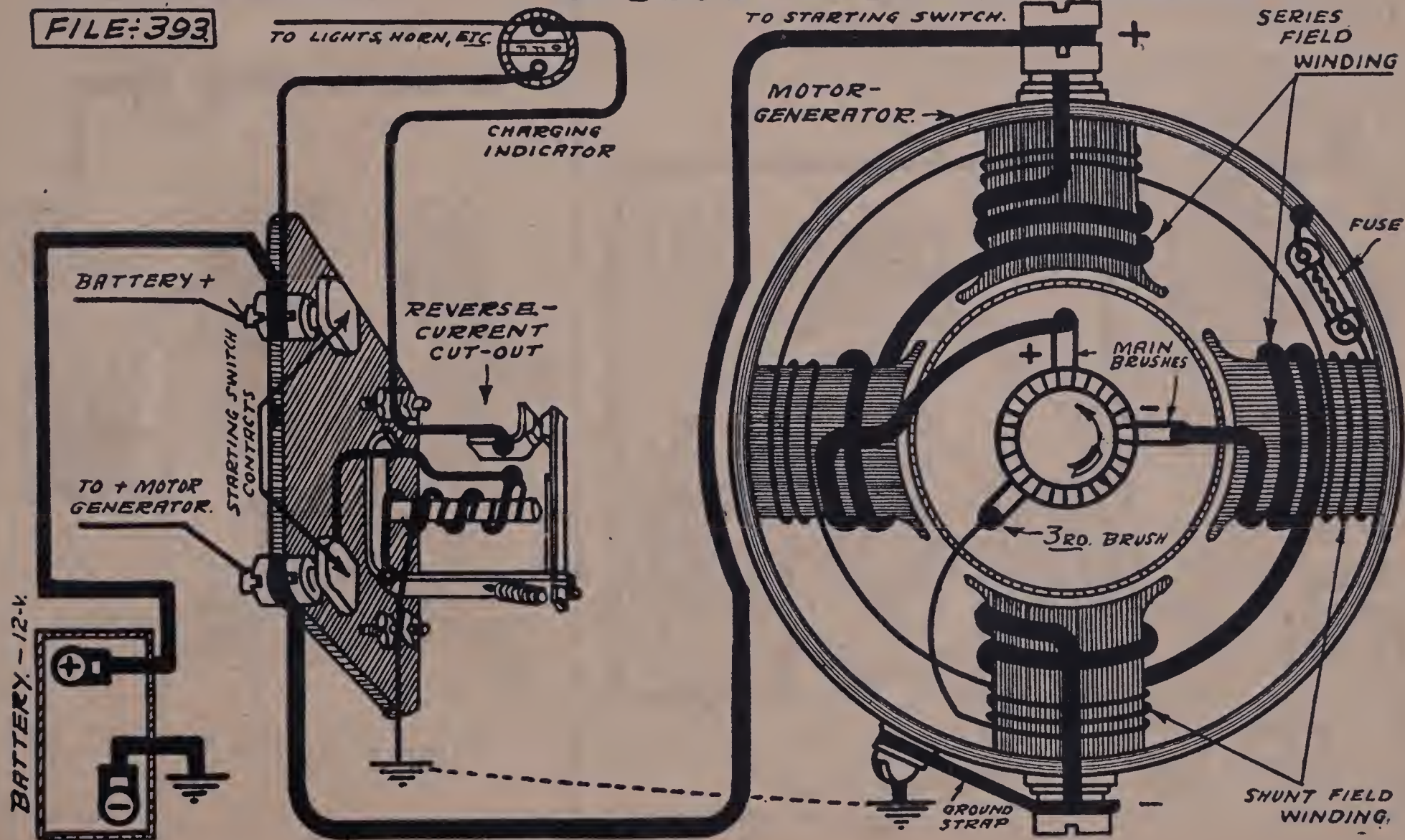


NORTH EAST

INTERNAL CIRCUITS.

MODEL-G-SYSTEM — TYPE-3554-G-1= STARTER-GENERATOR.

FILE:393



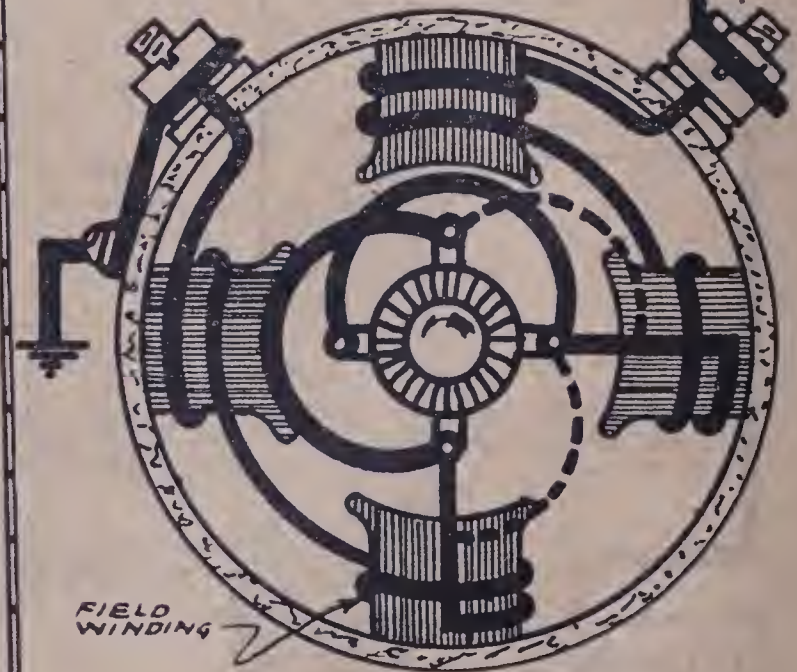
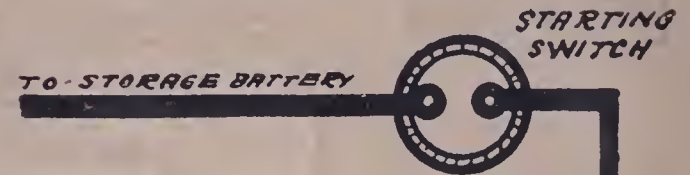
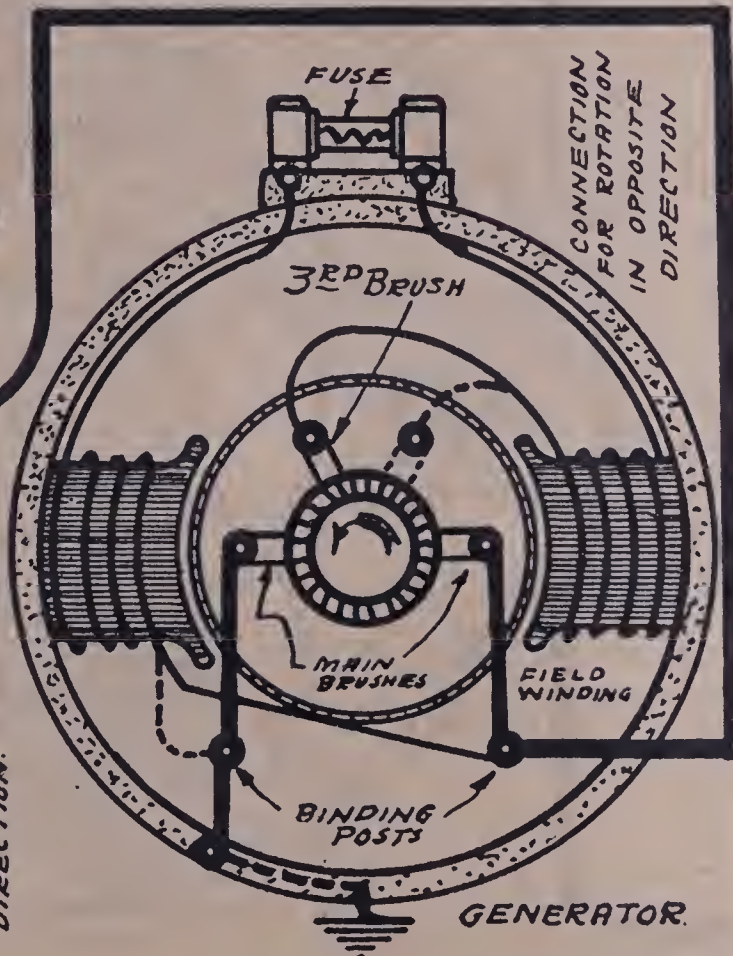
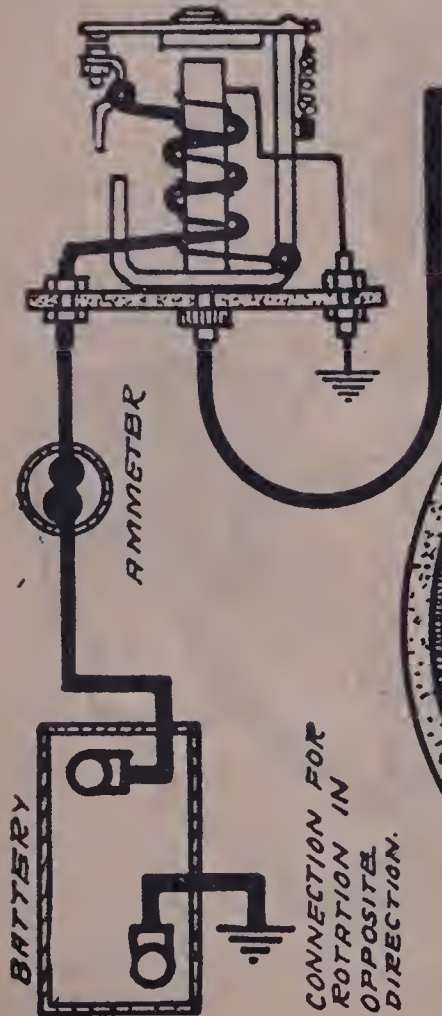
NORTH-EAST.

MODEL - L - GENERATOR.

MODEL H, K, OR R. STARTING MOTOR.

FILE: 398

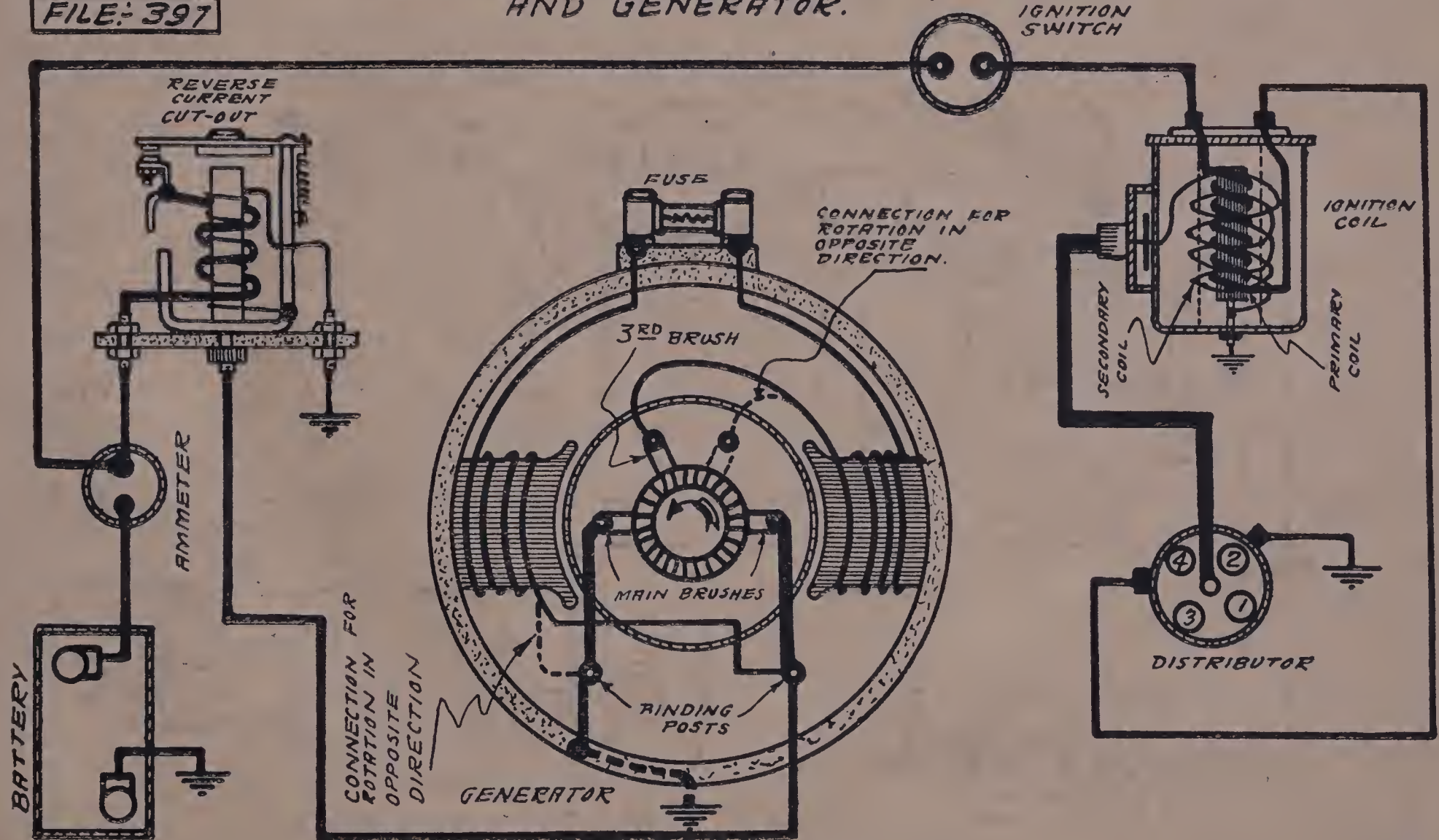
REVERSE CURRENT
CUT-OUT



DOTTED LINES SHOW CONNECTIONS FOR
CLOCKWISE ROTATION (AS DETERMINED
FROM DRIVE END

NORTH-EAST. INTERNAL CIRCUITS. MODEL-P-COMBINATION IGNITION DISTRIBUTOR AND GENERATOR.

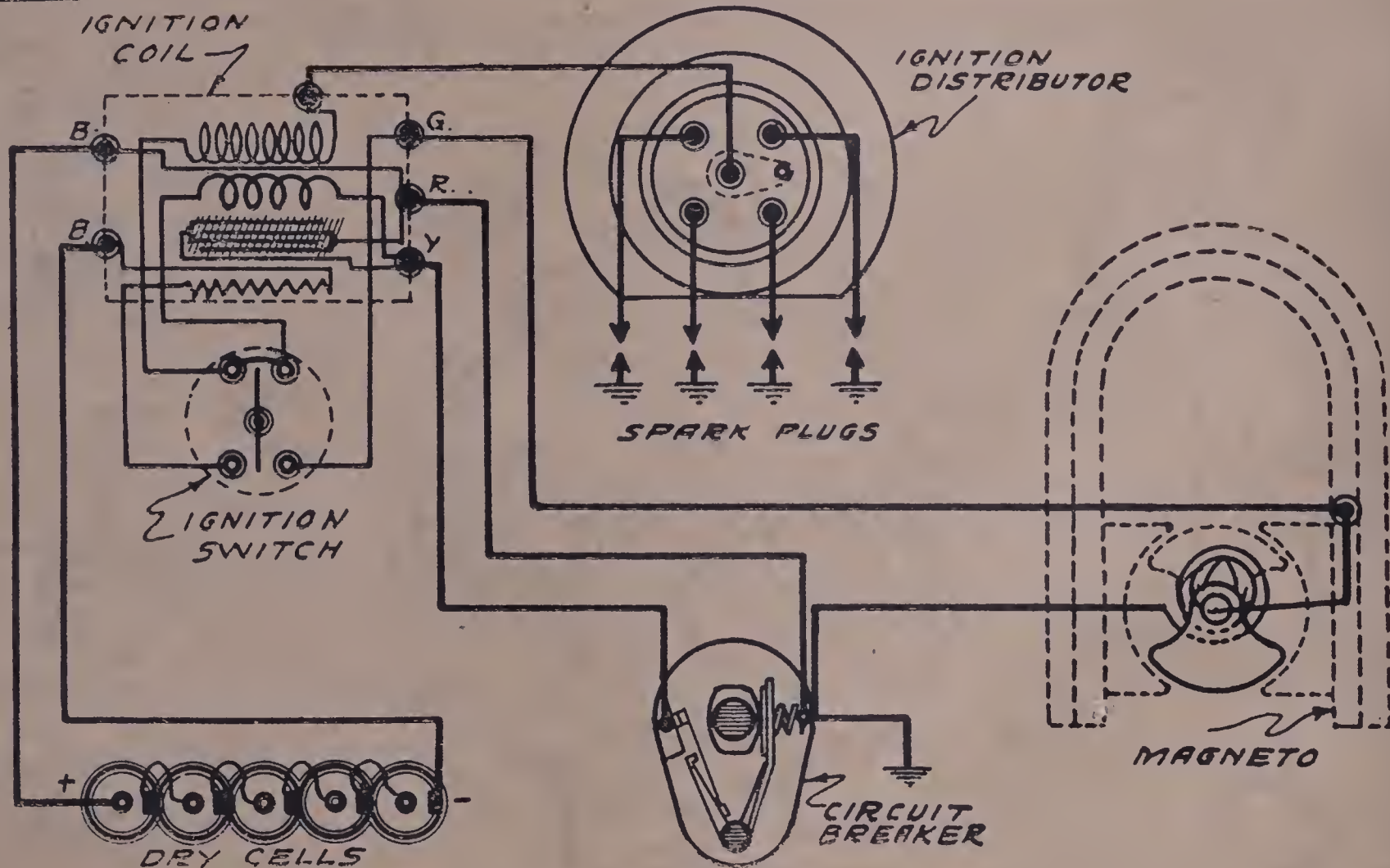
FILE: 397



REMY

MAGNETO IGNITION MODELS L, S, AND T.

FILE: 278.

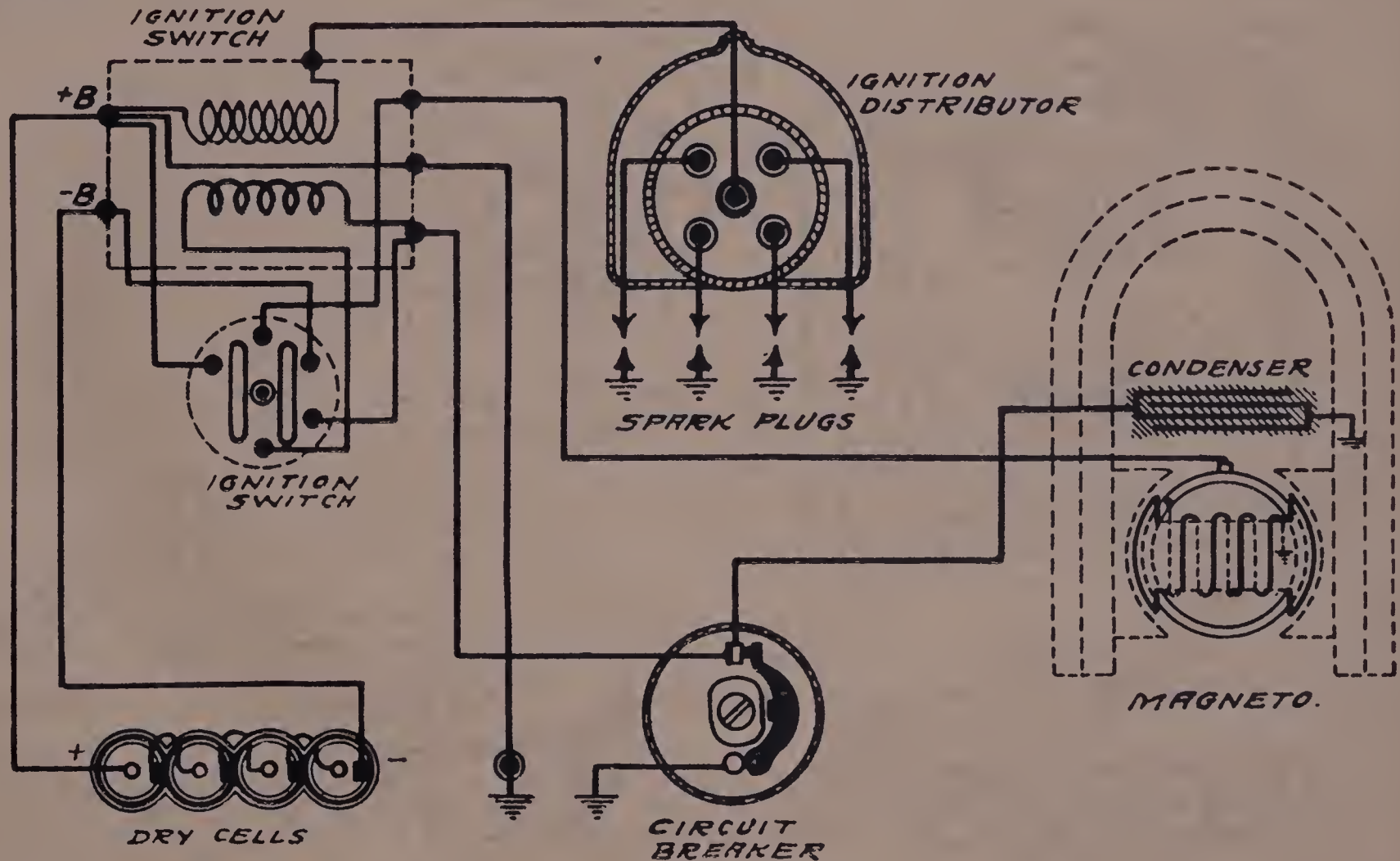


REMY

IGNITION SYSTEM.

MODELS P. & 32 MAGNETO.

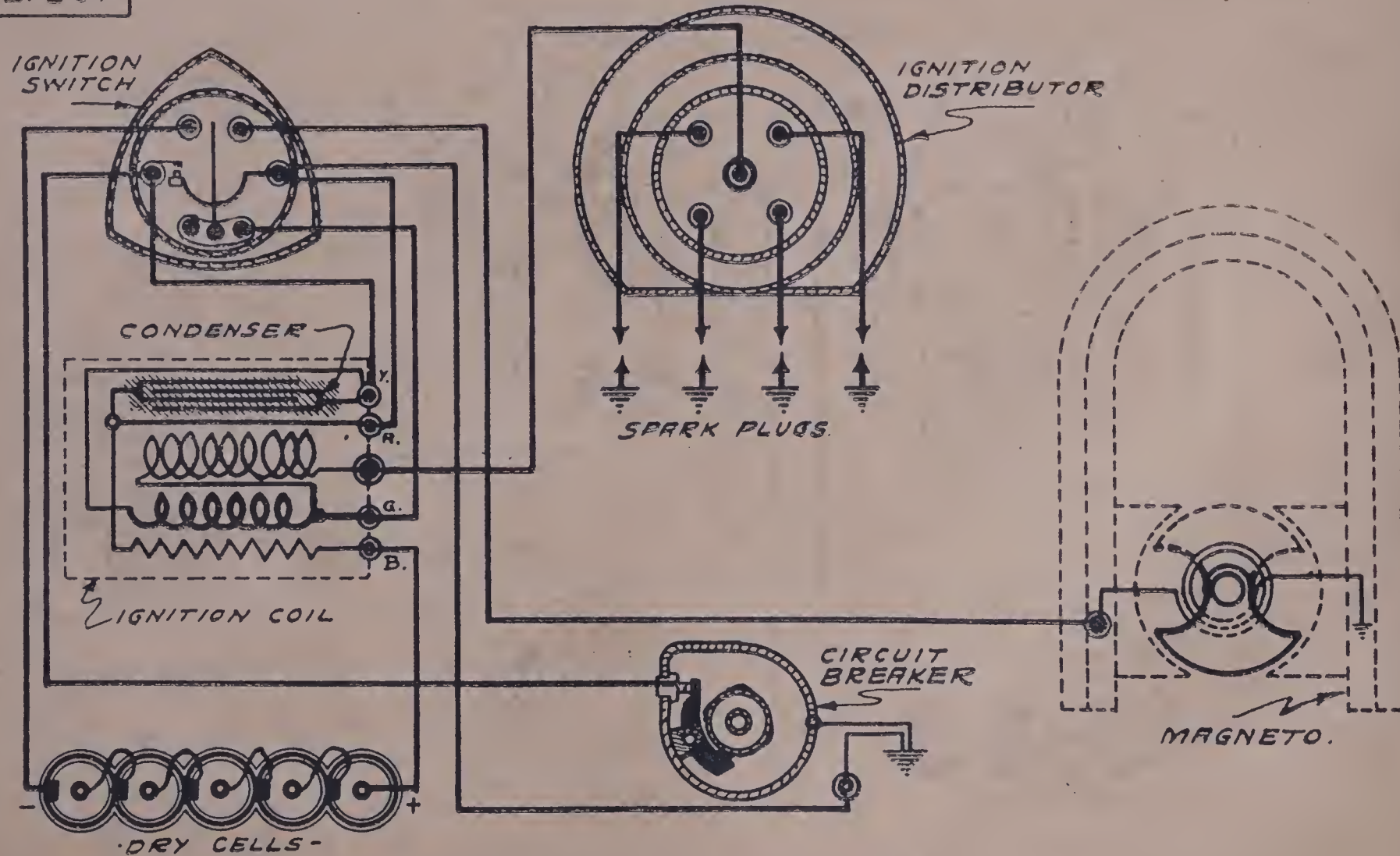
FILE: 267.



REMY

MAGNETO IGNITION MODELS R.D.

FILE: 267

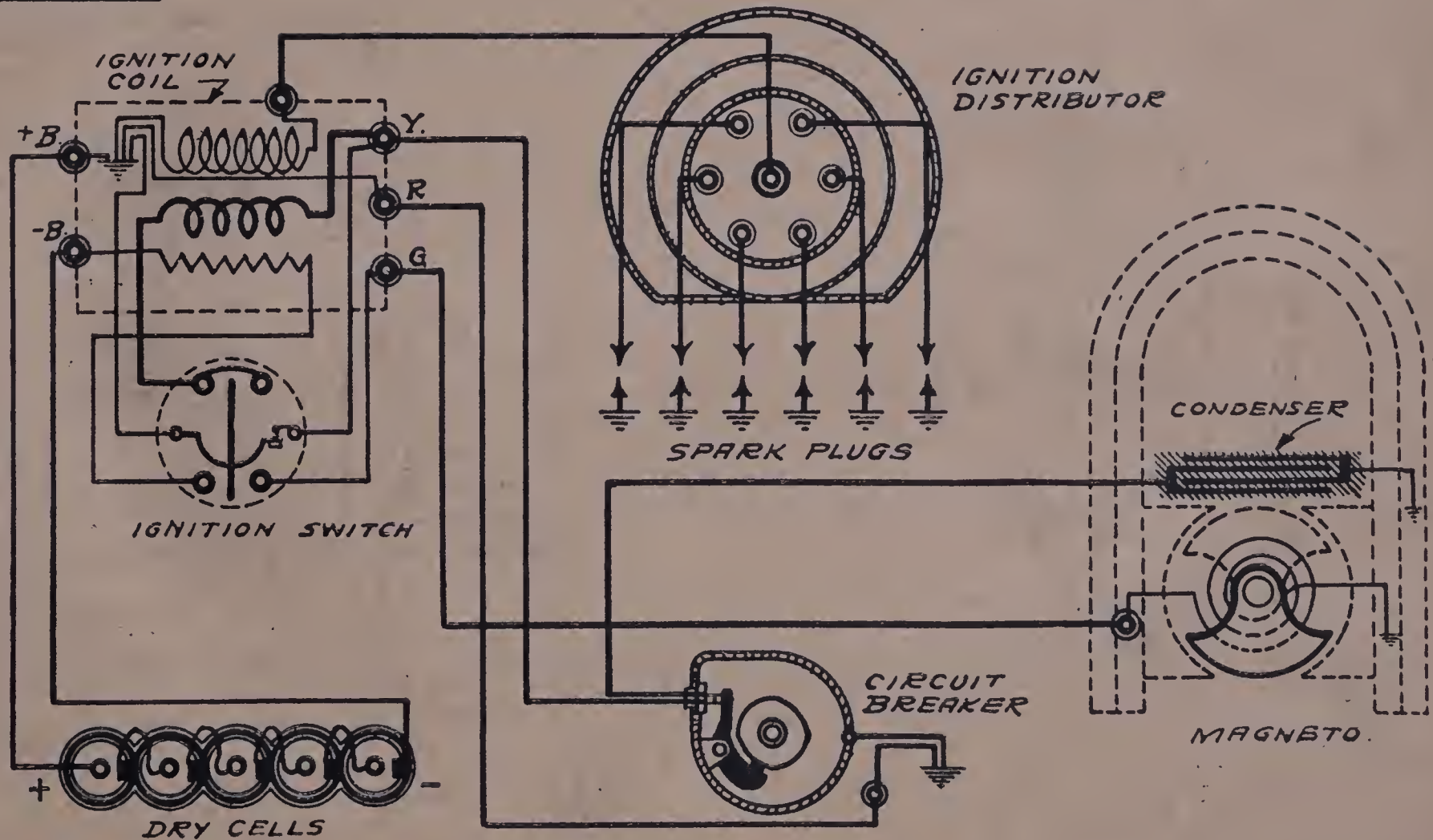


REMY

MAGNETO IGNITION

MODEL R.L.

FILE: 267.



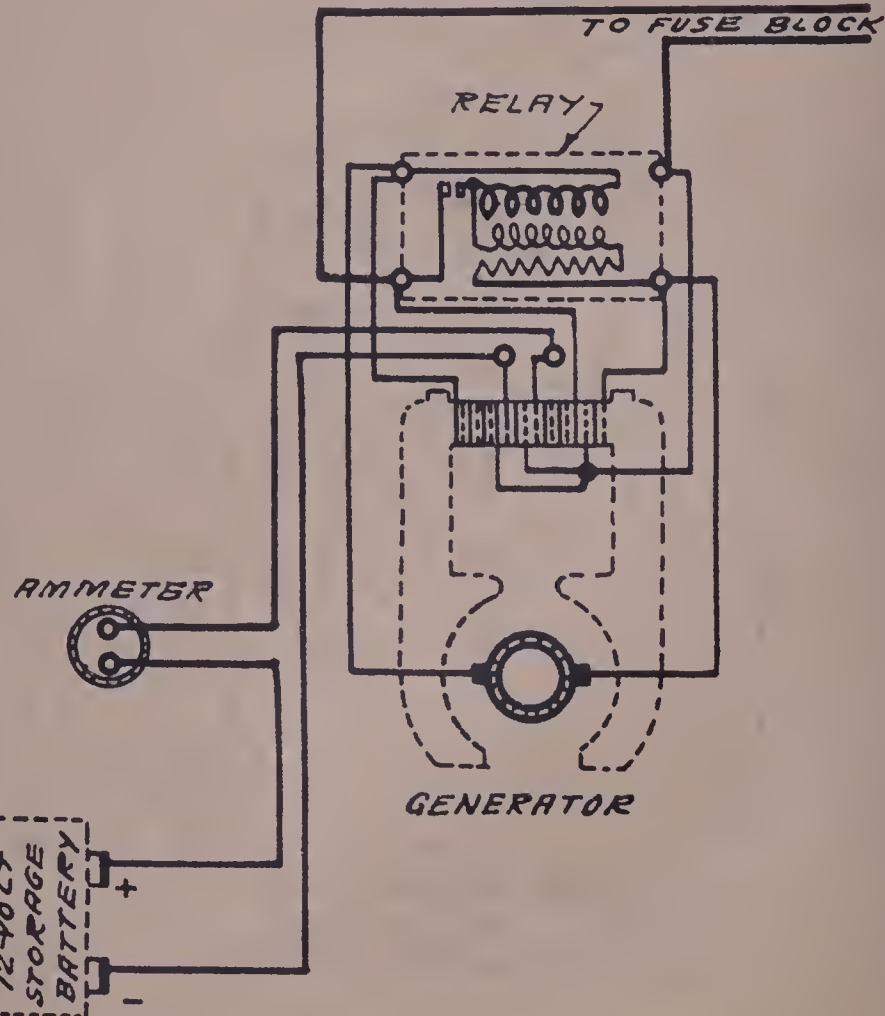
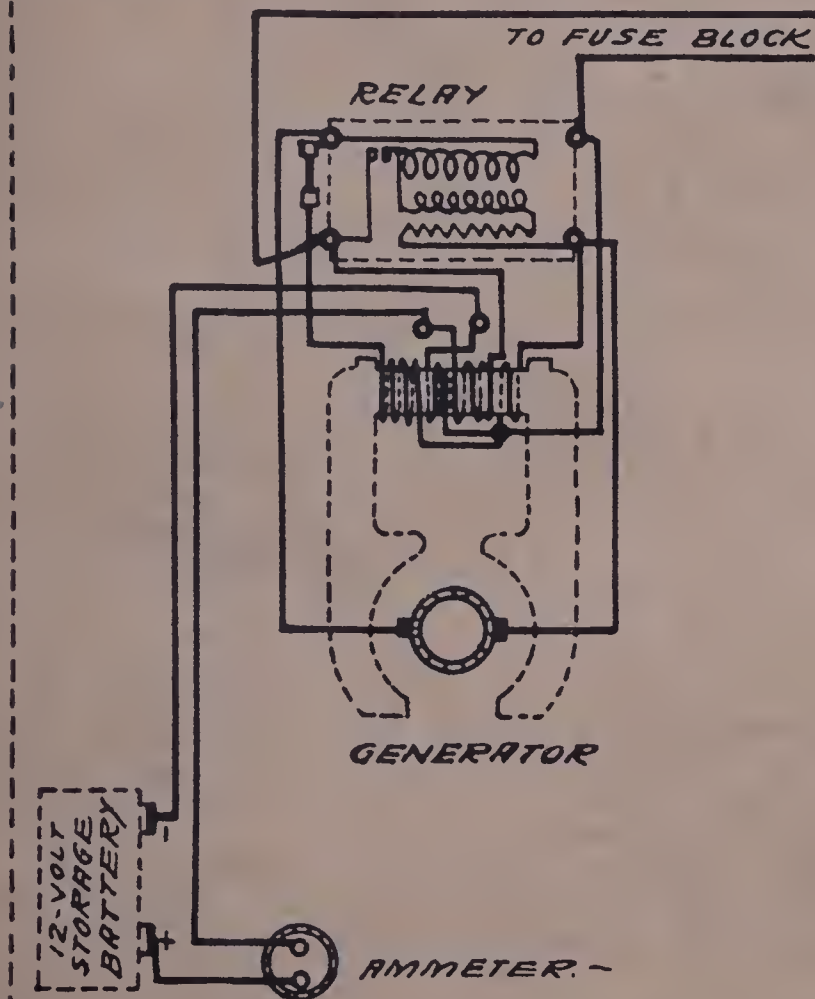
REMY

INTERNAL CIRCUITS.

MODEL M-J GENERATOR

MODEL M GENERATOR.

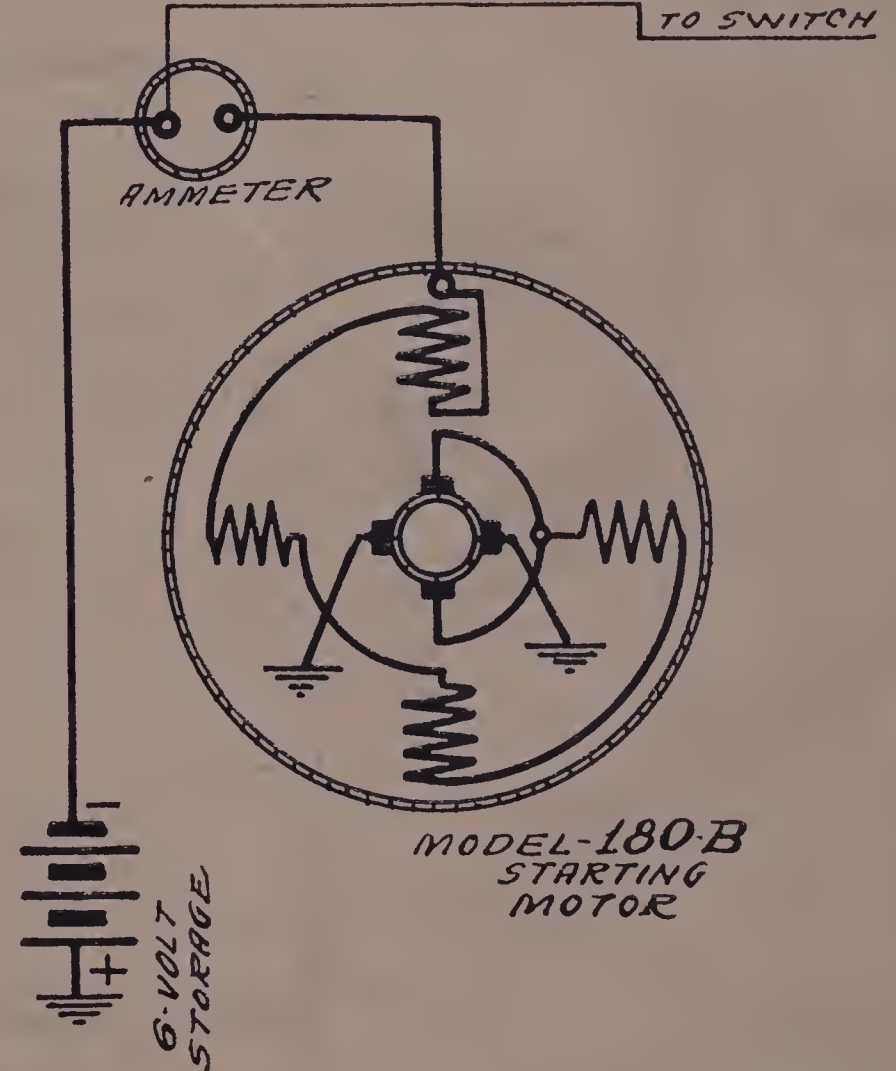
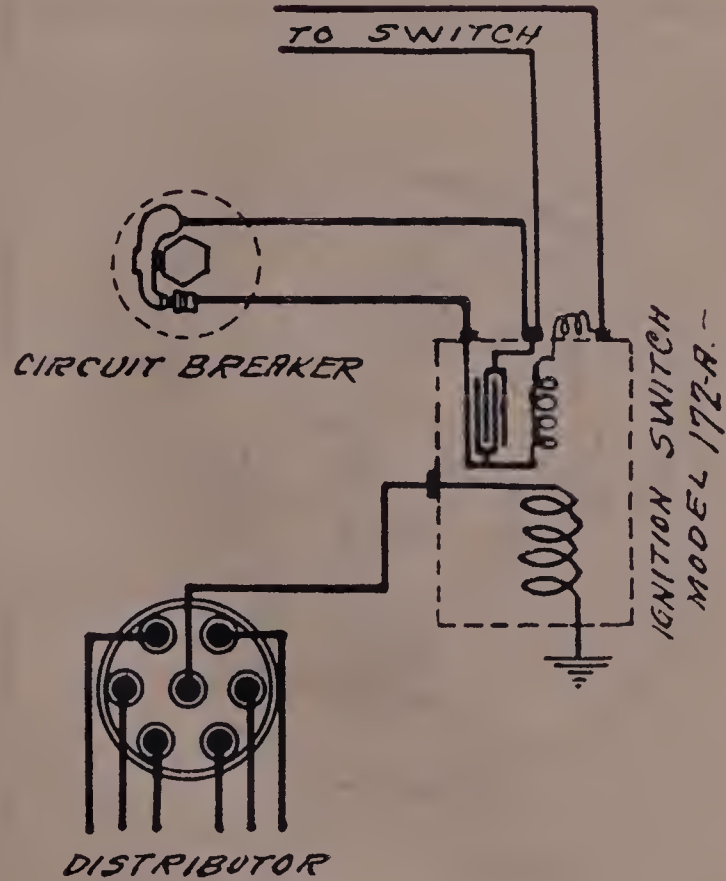
FILE-267



REMY

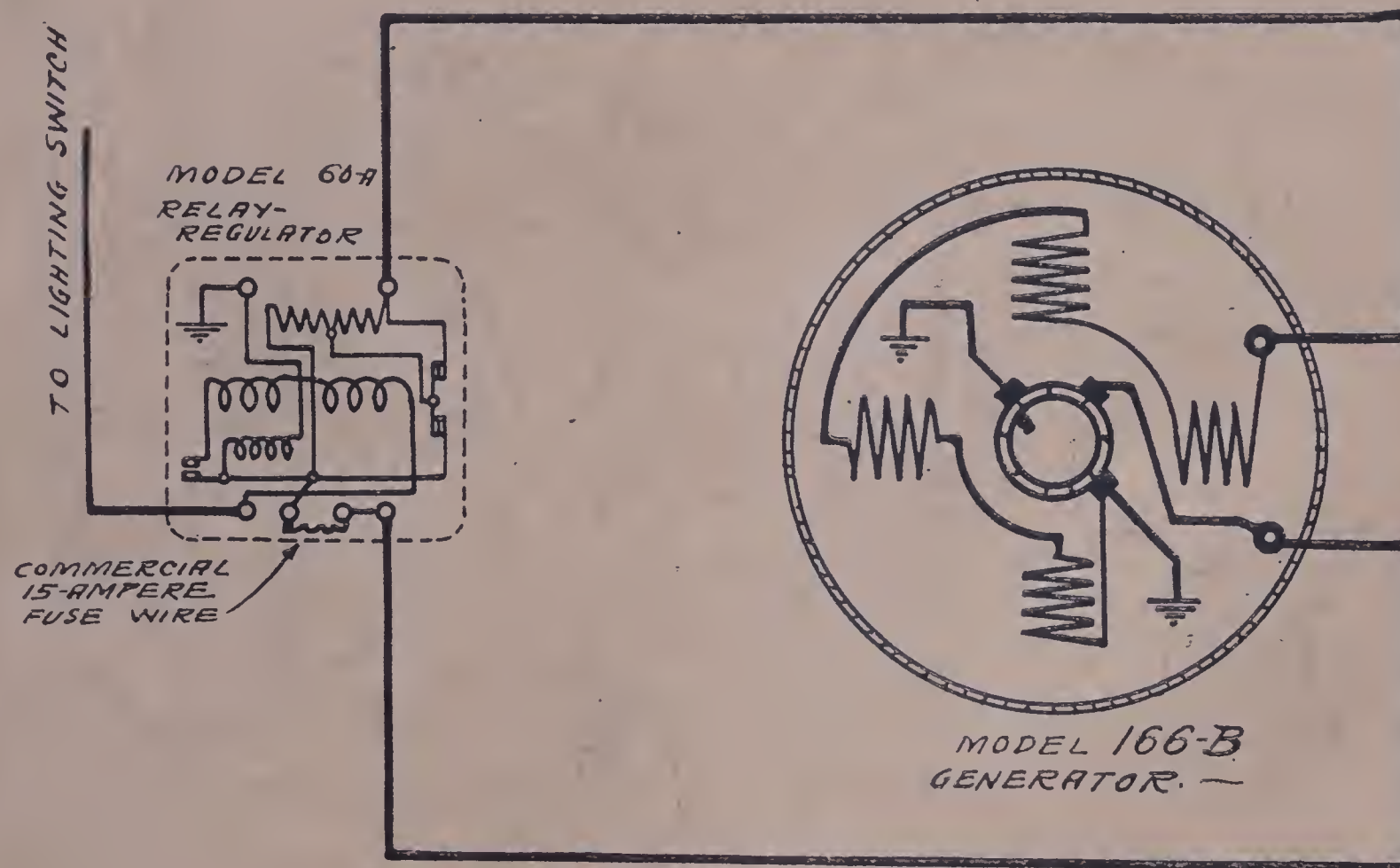
INTERNAL CIRCUITS

FILE-267.



REMY
INTERNAL CIRCUITS
MODEL-166-B, GENERATOR, -60-A, RELAY REGULATOR.

FILE: 267.

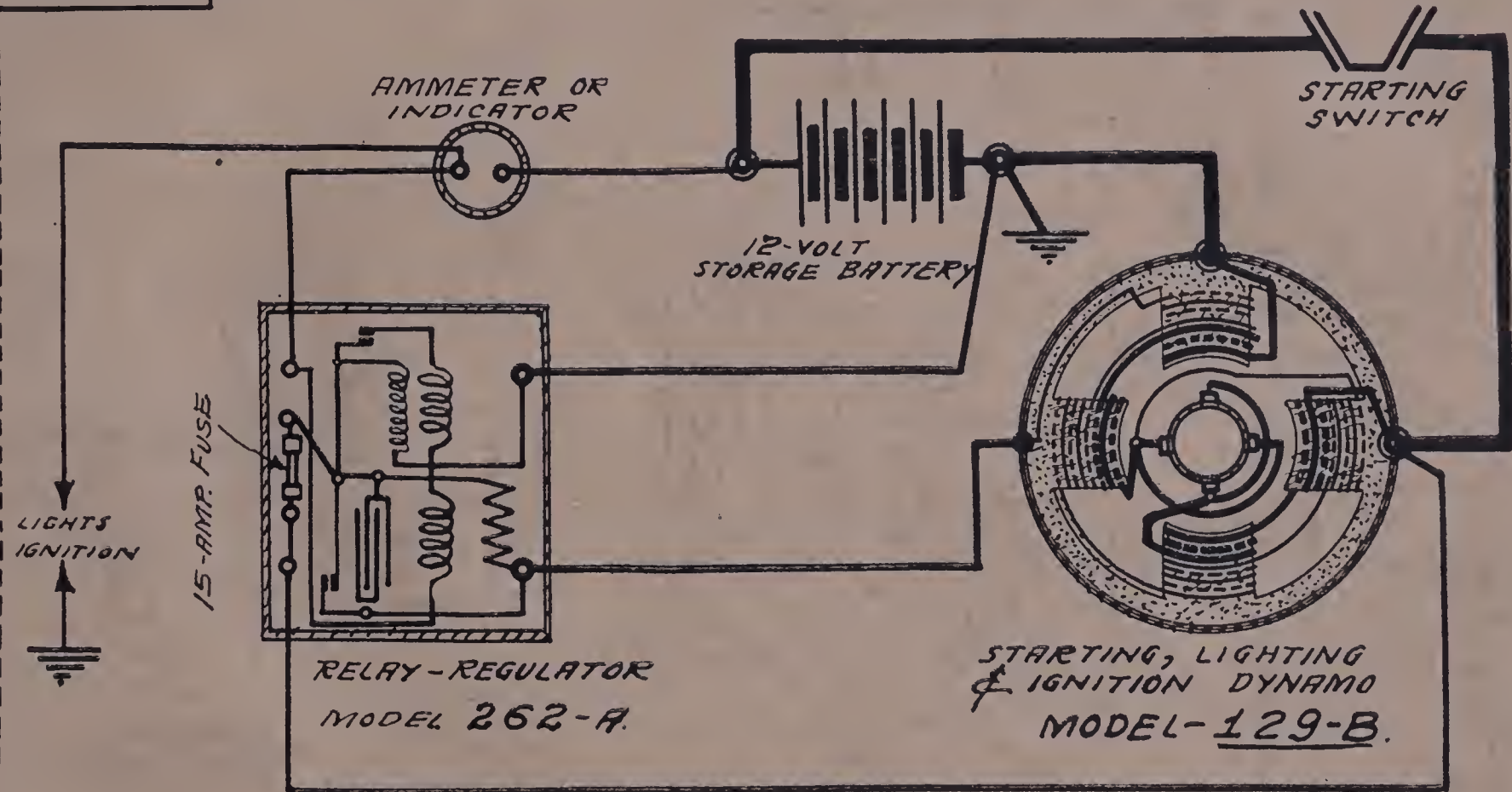


REMY

INTERNAL CIRCUITS.

MODELS; 262-A, RELAY-REGULATOR; - 129-B-MOTOR-GENERATOR.

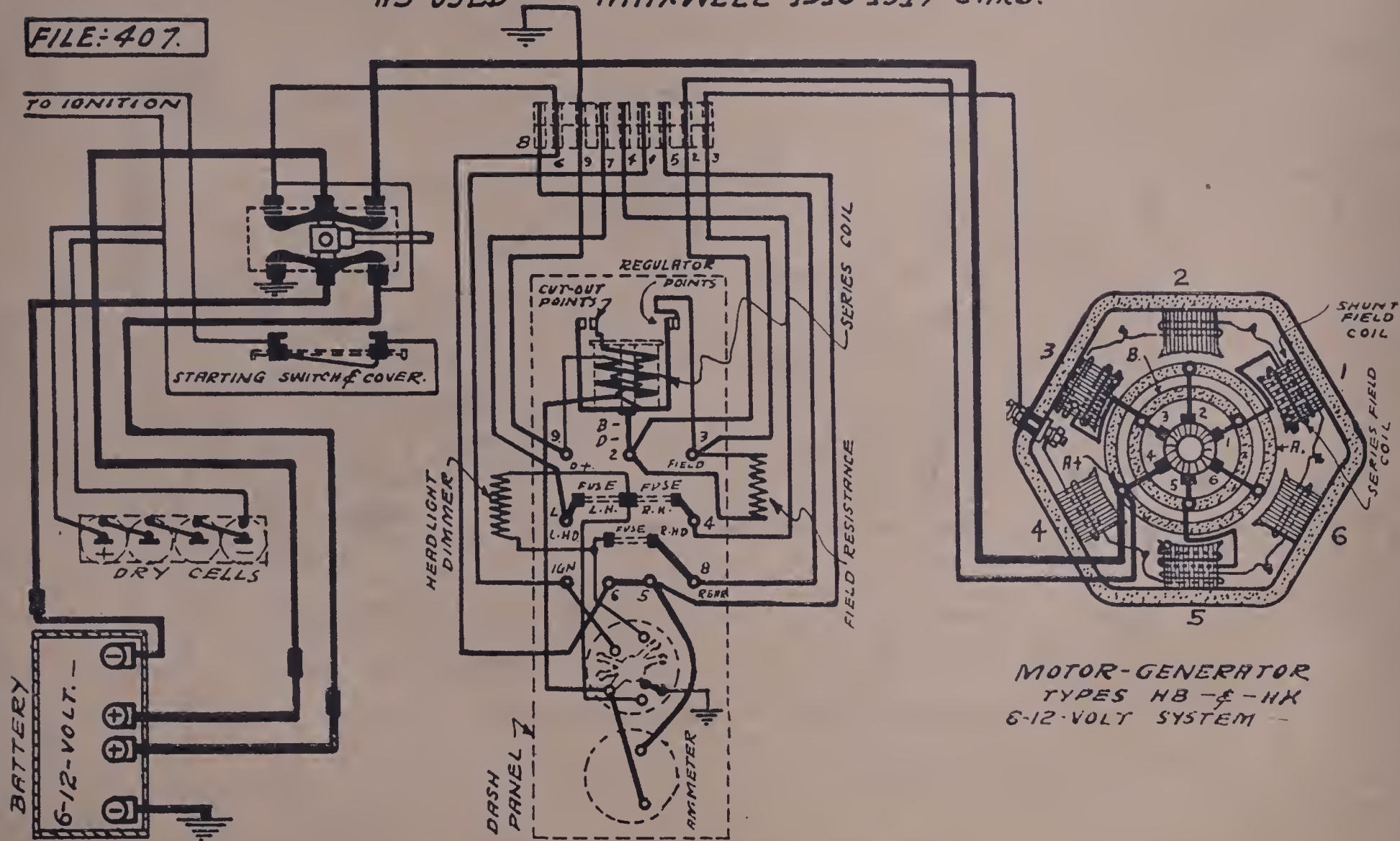
FILE: 267.



SIMMS-HUFF

TYPES, HB, & HX. MOTOR-GENERATOR, 6-12 VOLT SYSTEM.
AS USED ON MAXWELL 1916-1917 CARS.

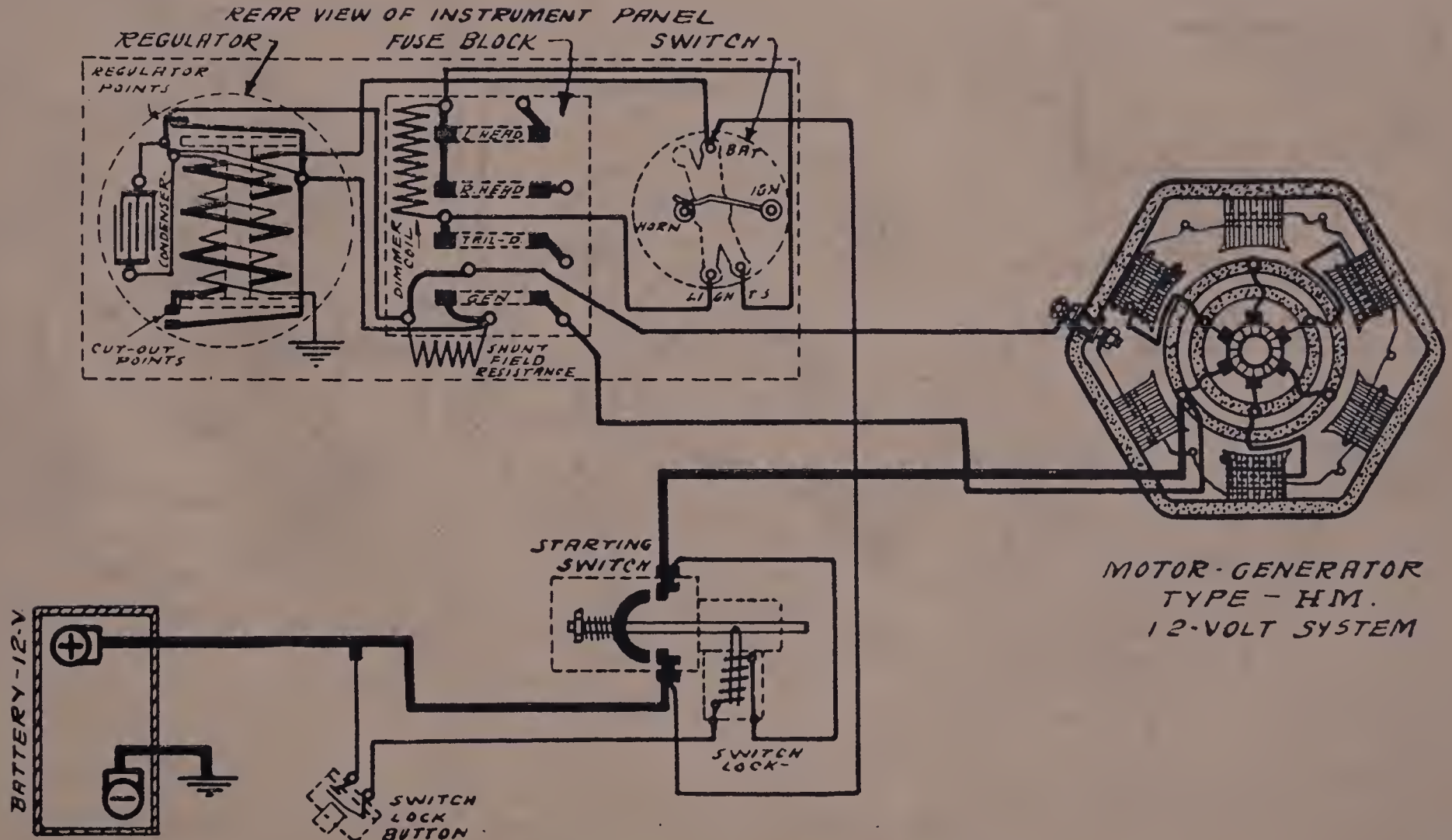
FILE: 407.



SIMMS-HUFF

TYPE - HM. MOTOR-GENERATOR 12-VOLT-SYSTEM.
AS USED ON MAXWELL 1918-1919 CARS.

FILE:-407

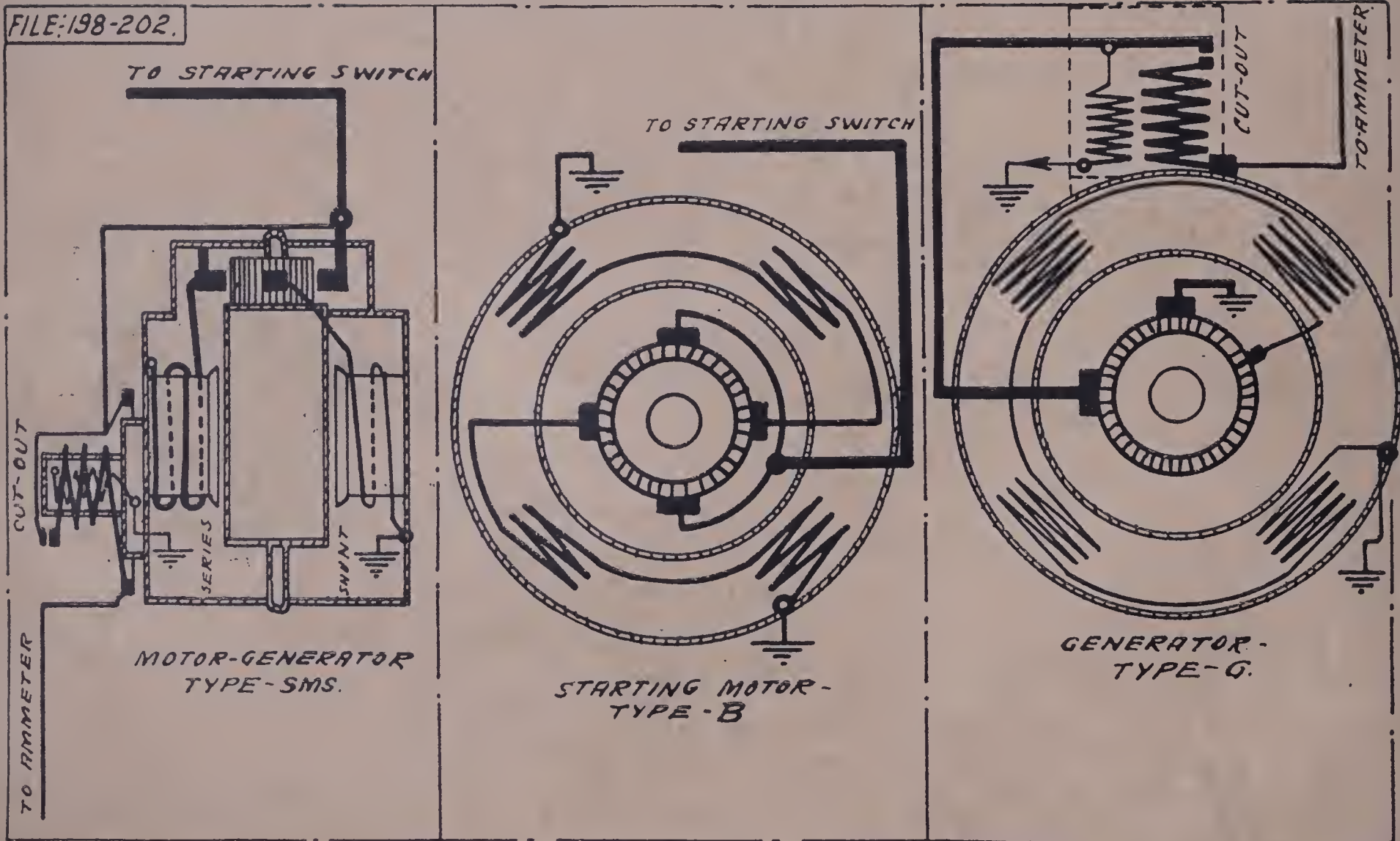


SIMMS-HUFF

INTERNAL CIRCUITS

AS USED ON MAXWELL 1920 CARS.

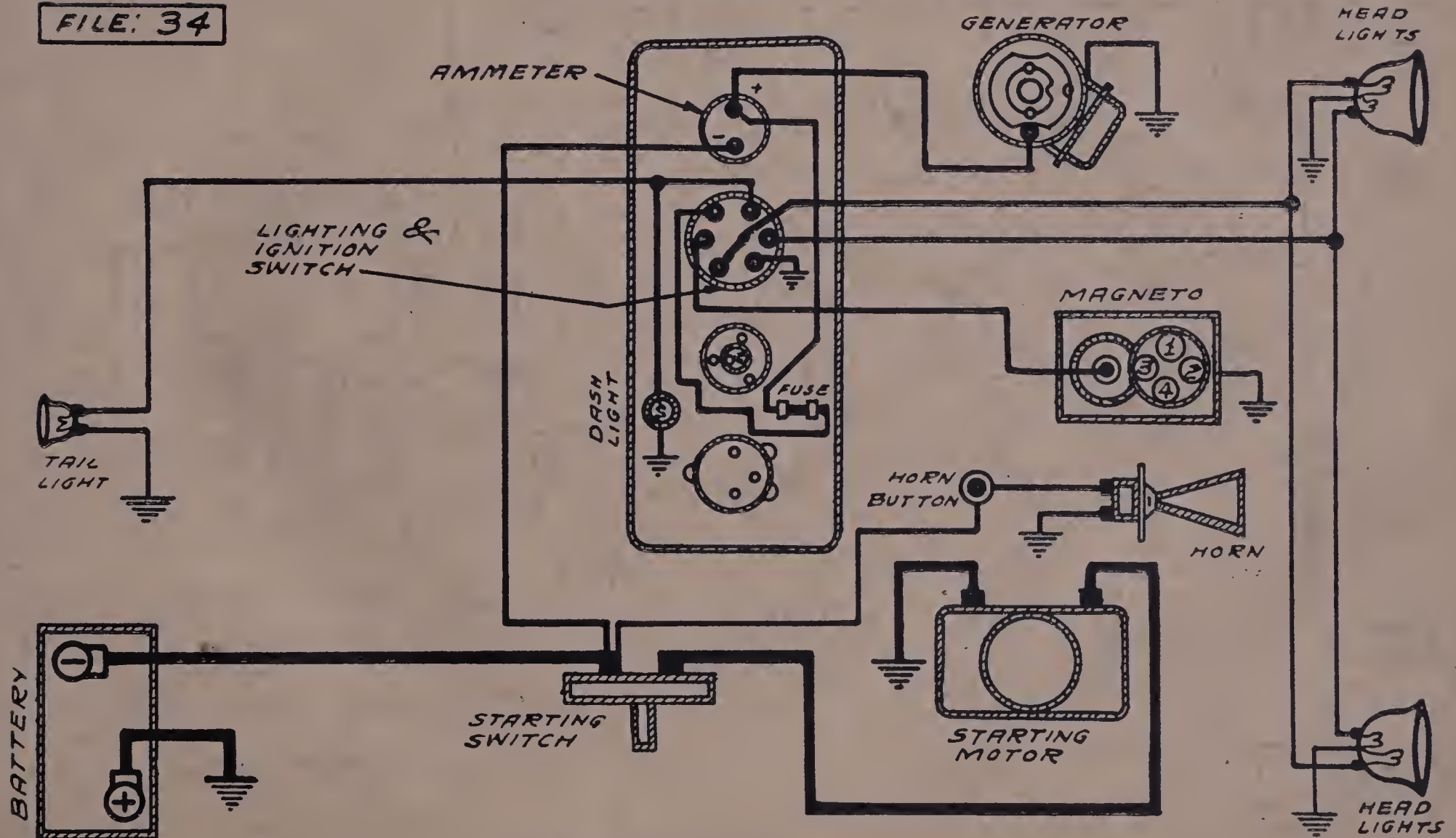
FILE: 198-202.



SPLITDORF

TWO UNIT: STARTING AND LIGHTING SYSTEM STANDARD WIRING

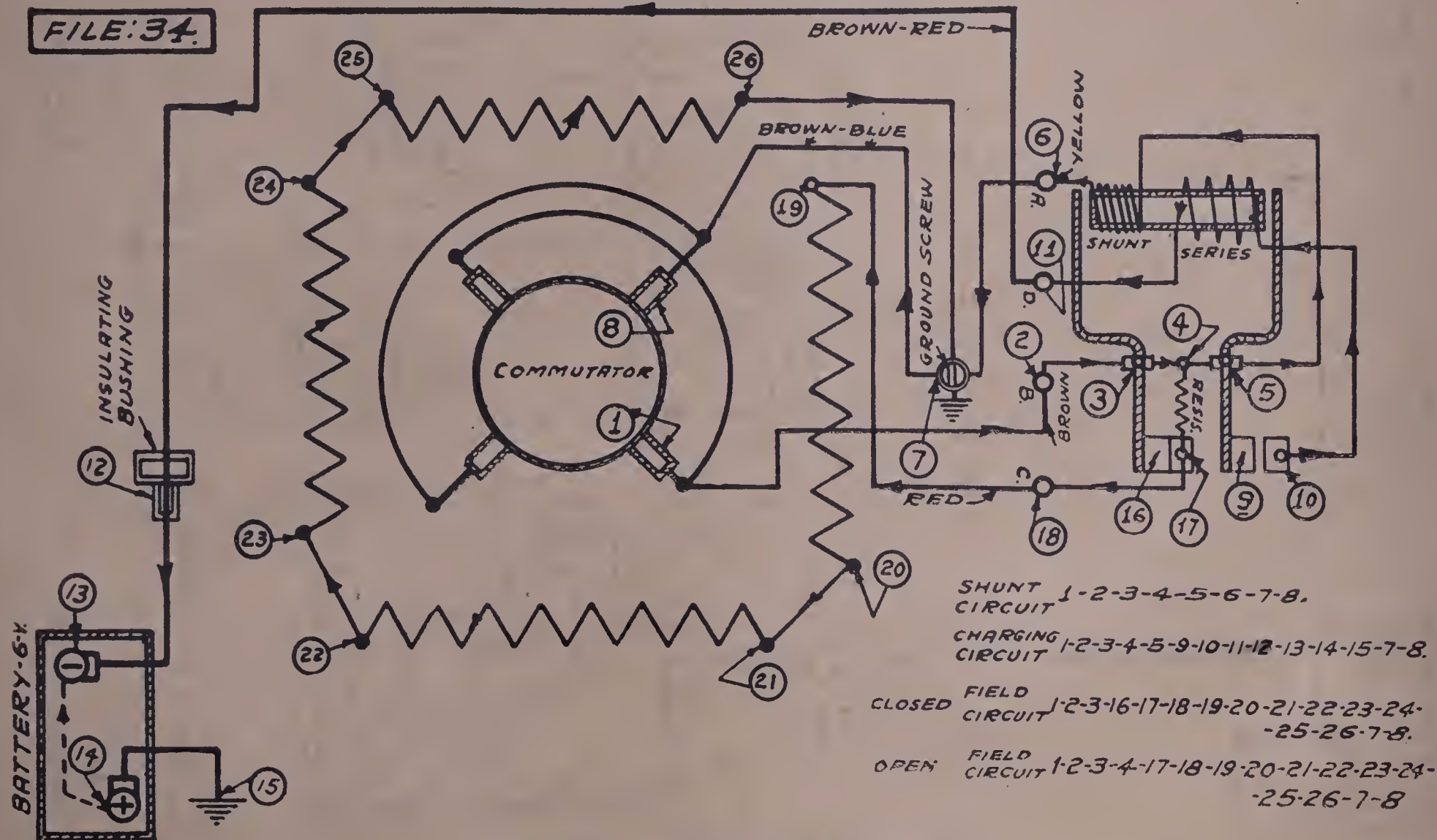
FILE: 34



SPLITDORF

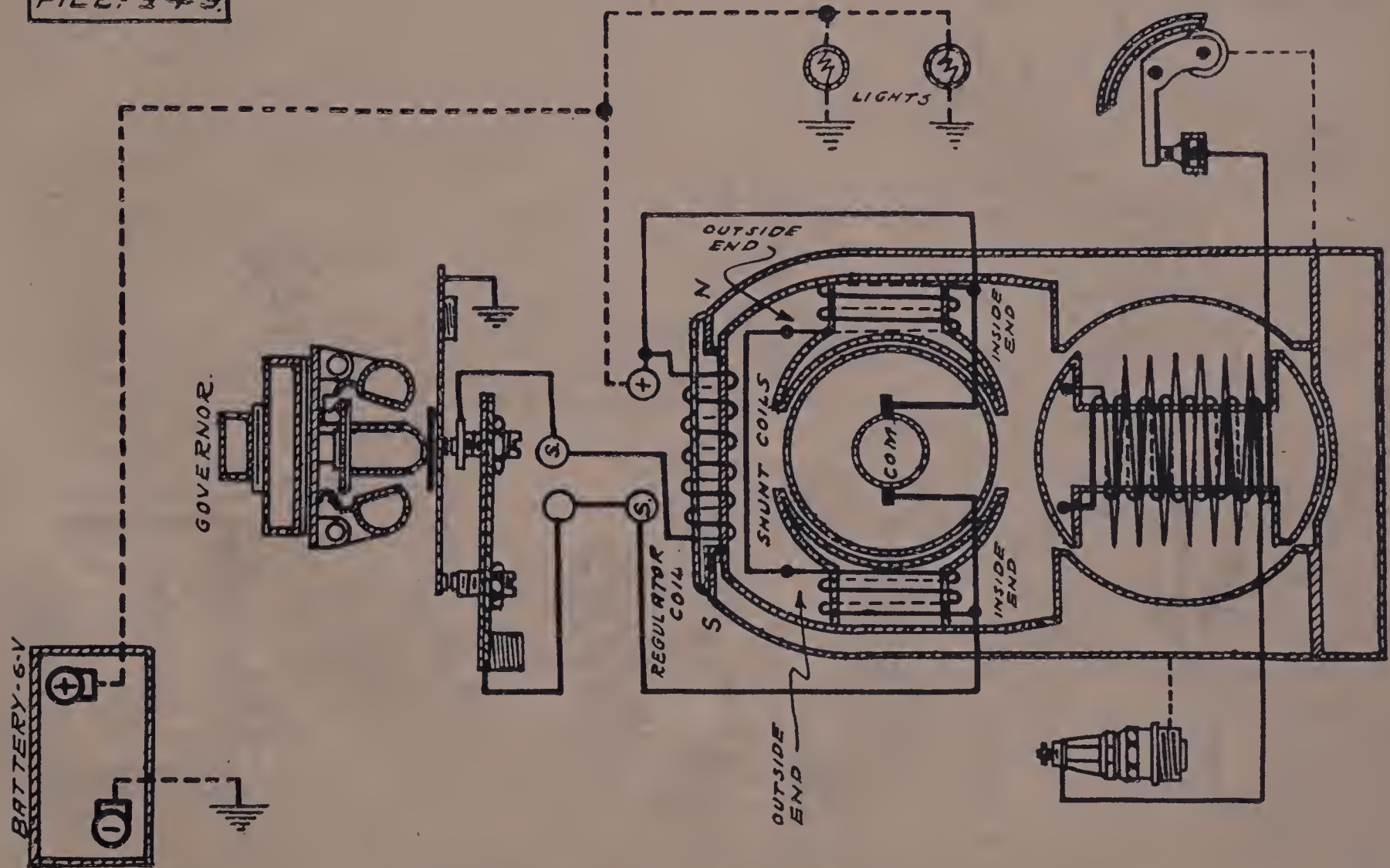
INTERNAL CIRCUIT PLAN - GENERATOR & W.L. REGULATOR

SPLITDORF MODEL R.G.U. GENERATOR.



Copyright, 1920, by Geo. Roudanez, Chicago, Ill.

63

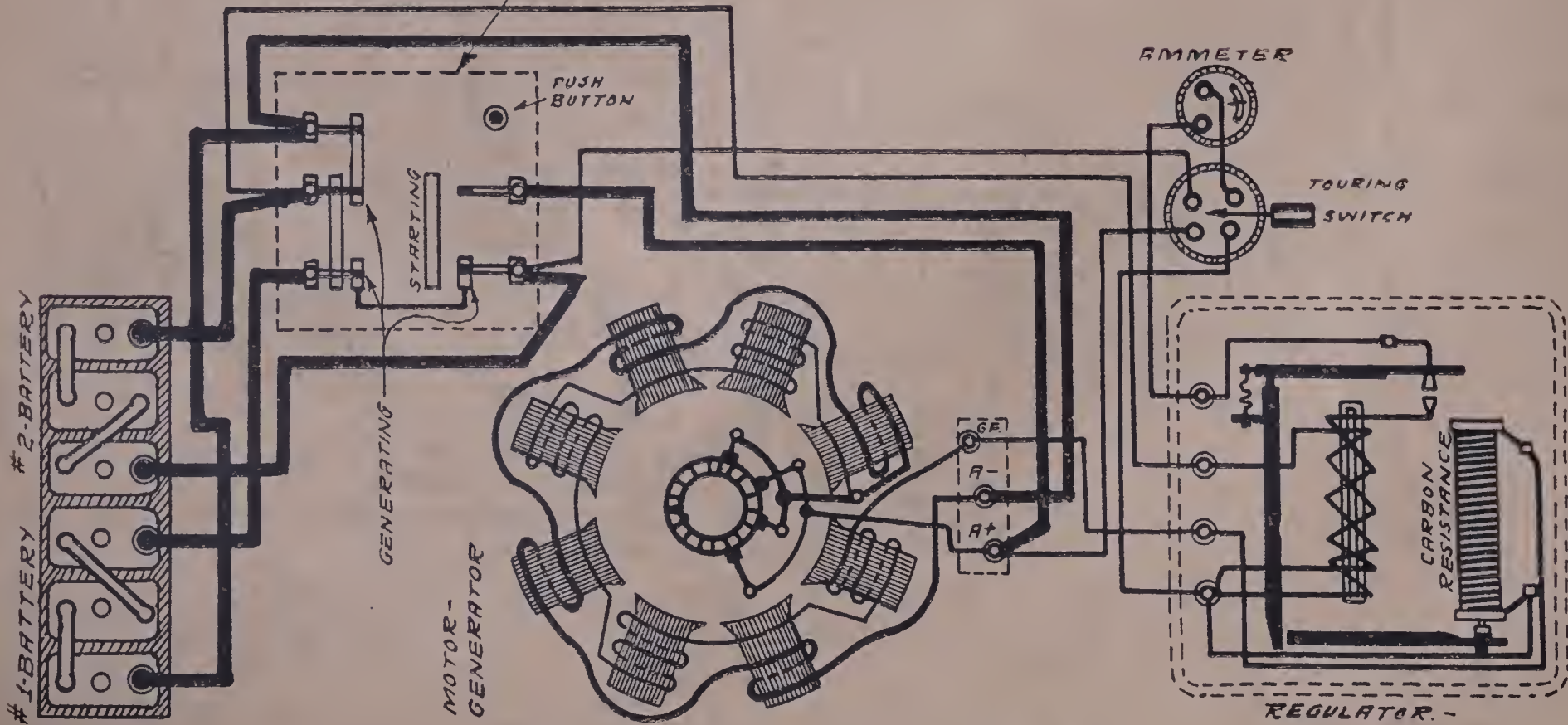
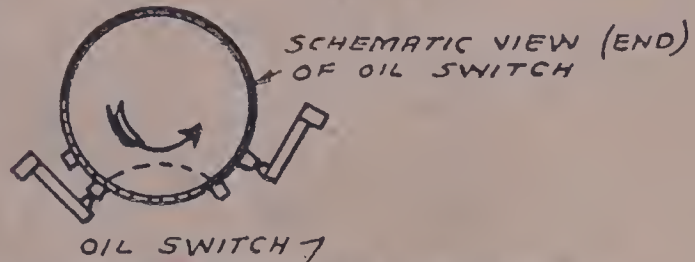


U. S. L.

INTERNAL CIRCUITS.

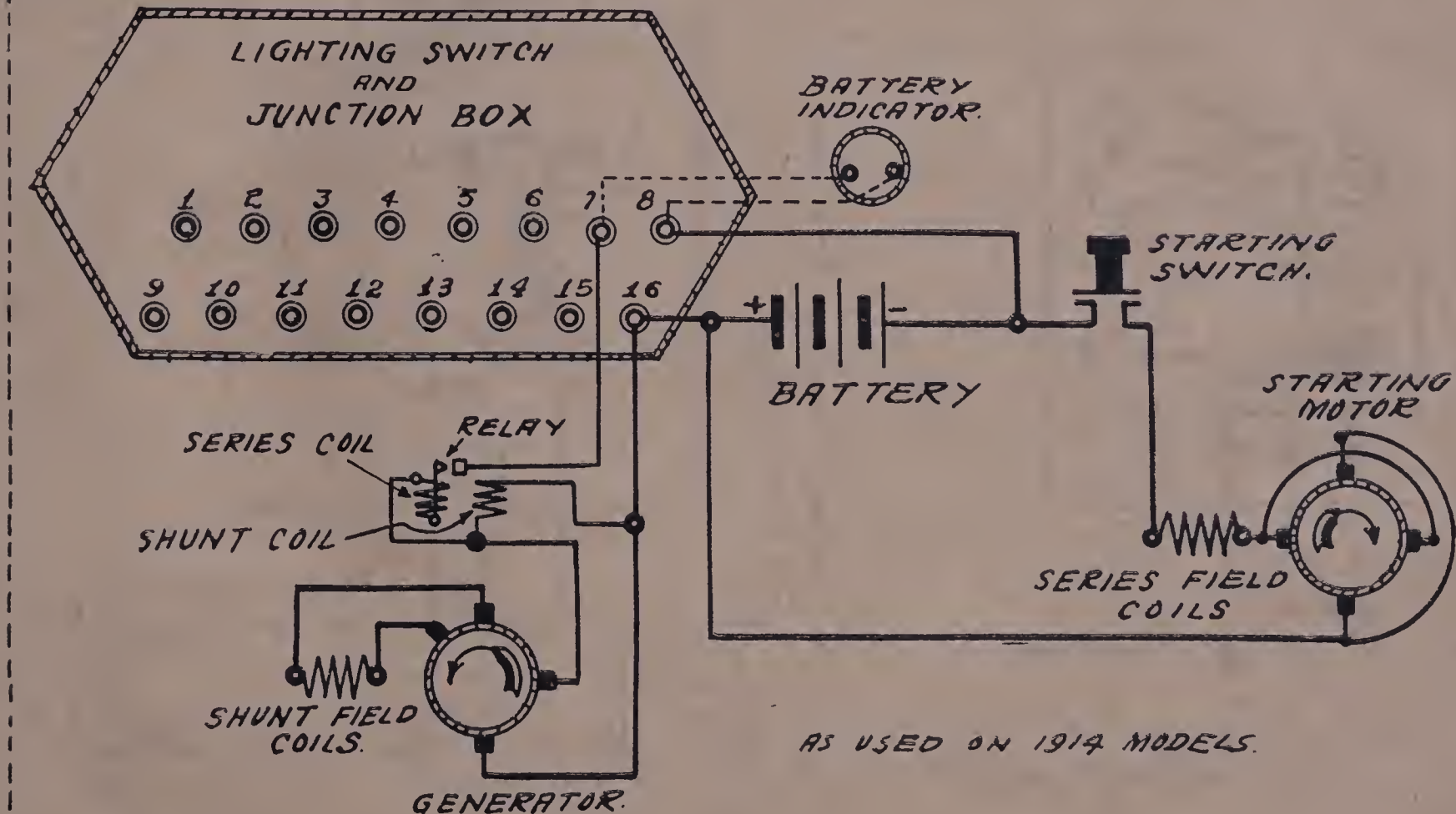
E-49-STARTER & REGULATOR.

FILE: 392.



WAGNER. INTERNAL CIRCUITS.

FILE: 409.



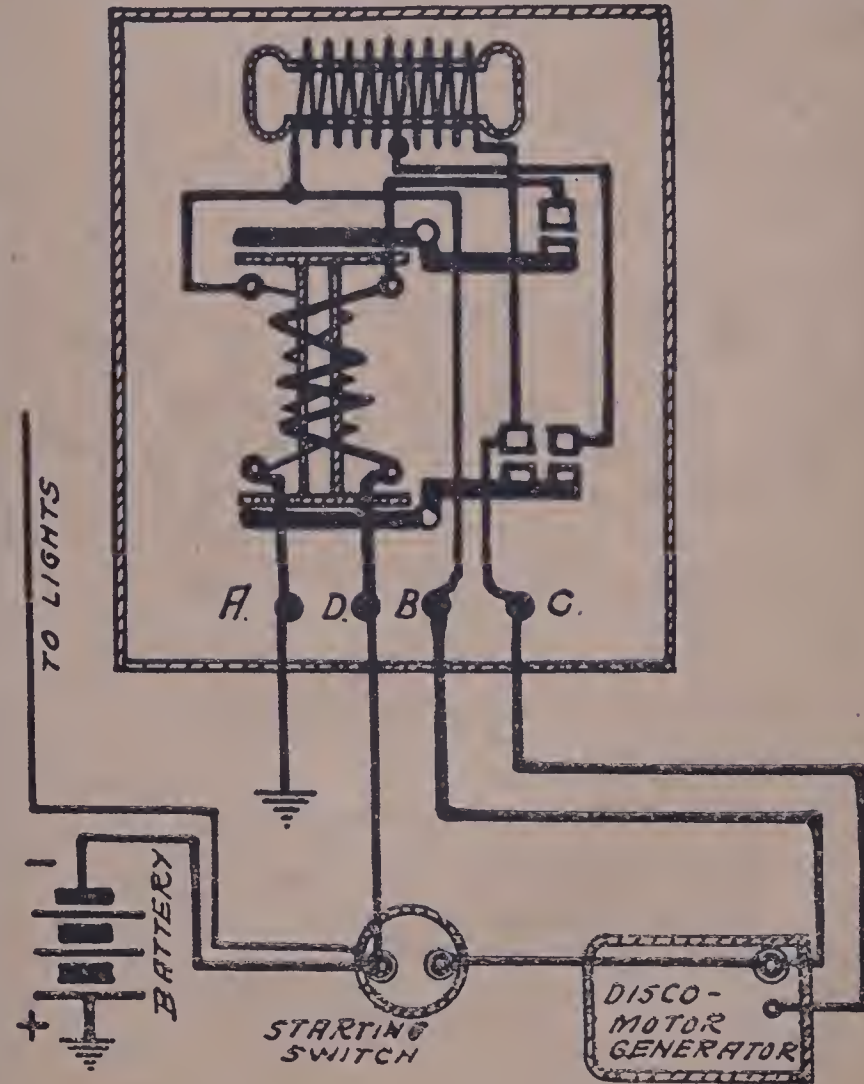
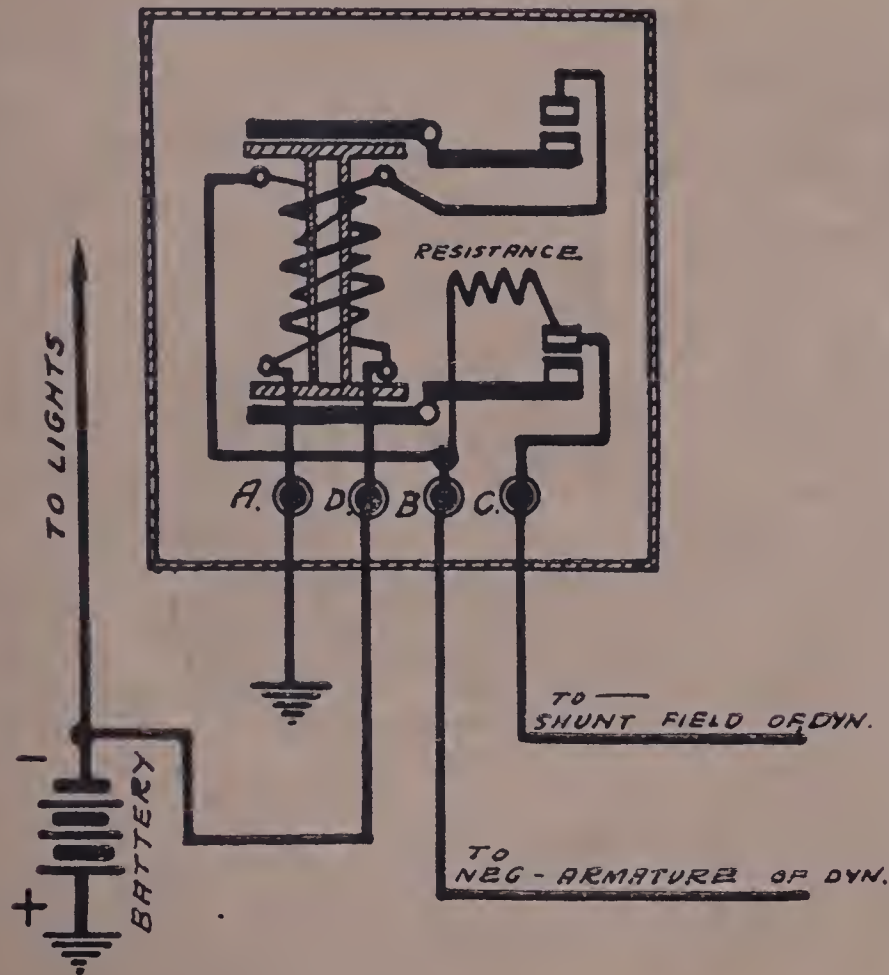
WARD-LEONARD

AUTOMATIC CONTROLLER

TYPE CC.

TYPE CD-USED WITH DISCO MOT-GEN.

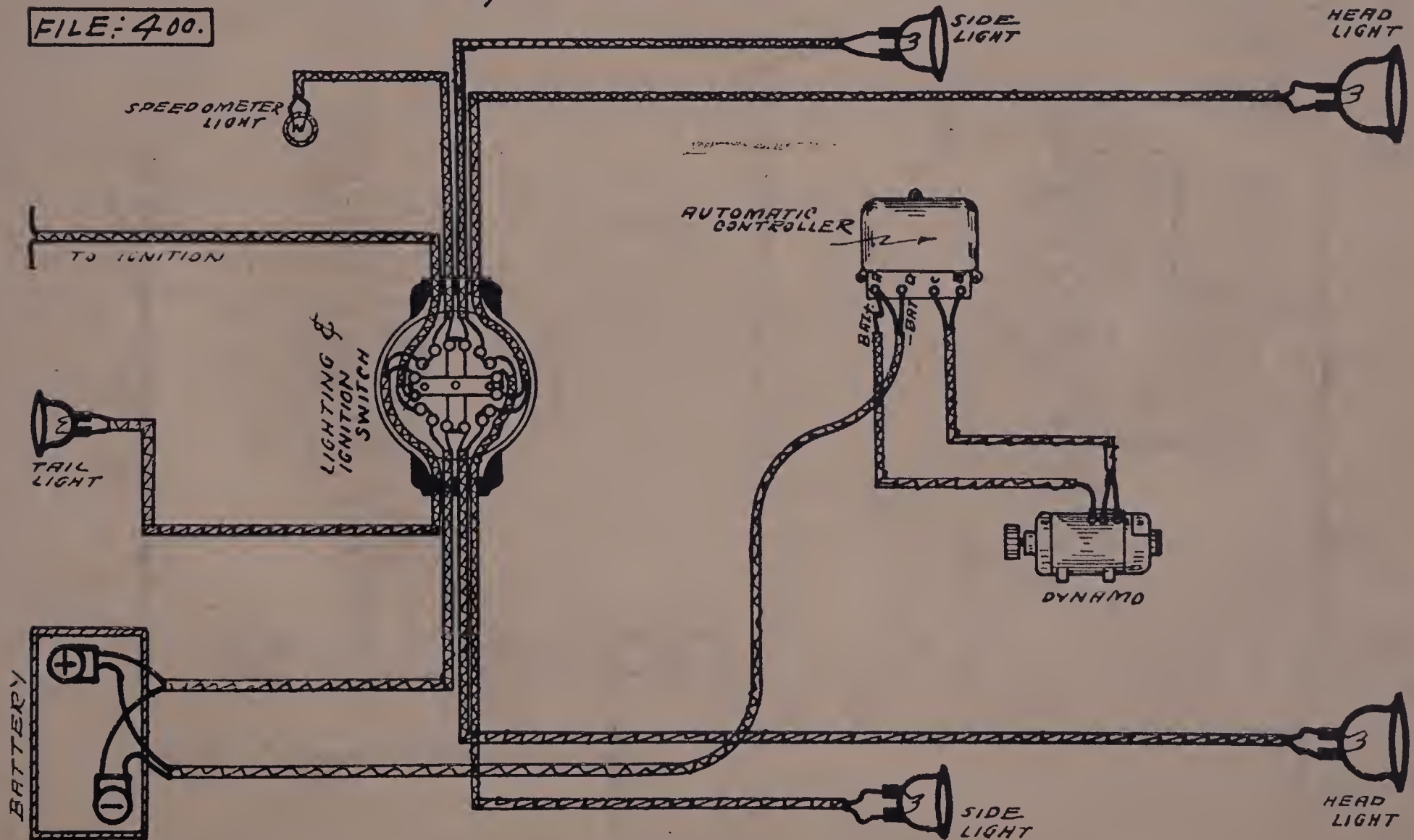
FILE: 368.



WARD-LEONARD.

DIAGRAM OF WIRING FOR DYNAMO LIGHTING SYSTEM WITH TYPE "E" AUTOMATIC CONTROLLER & COMBINATION SWITCH AND DISTRIBUTION PANEL.

FILE: 400.



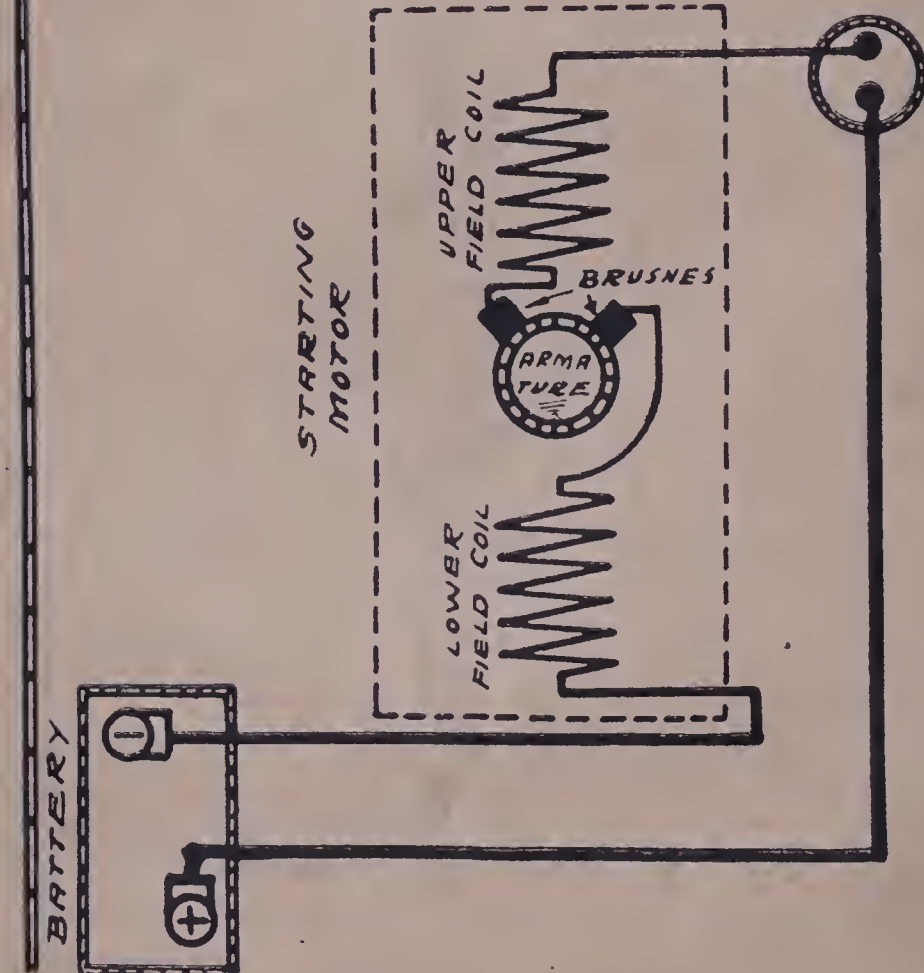
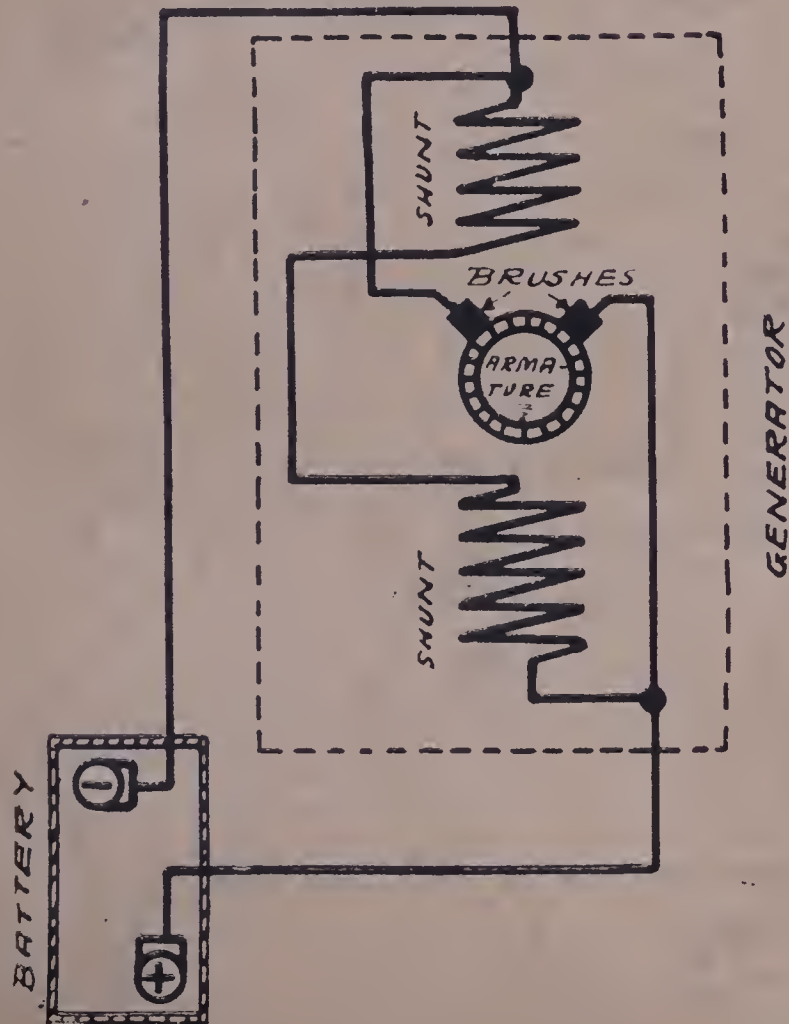
WARD-LEONARD

INTERNAL CIRCUITS.

GENERATOR TYPE VA.

STARTING MOTOR TYPE UA

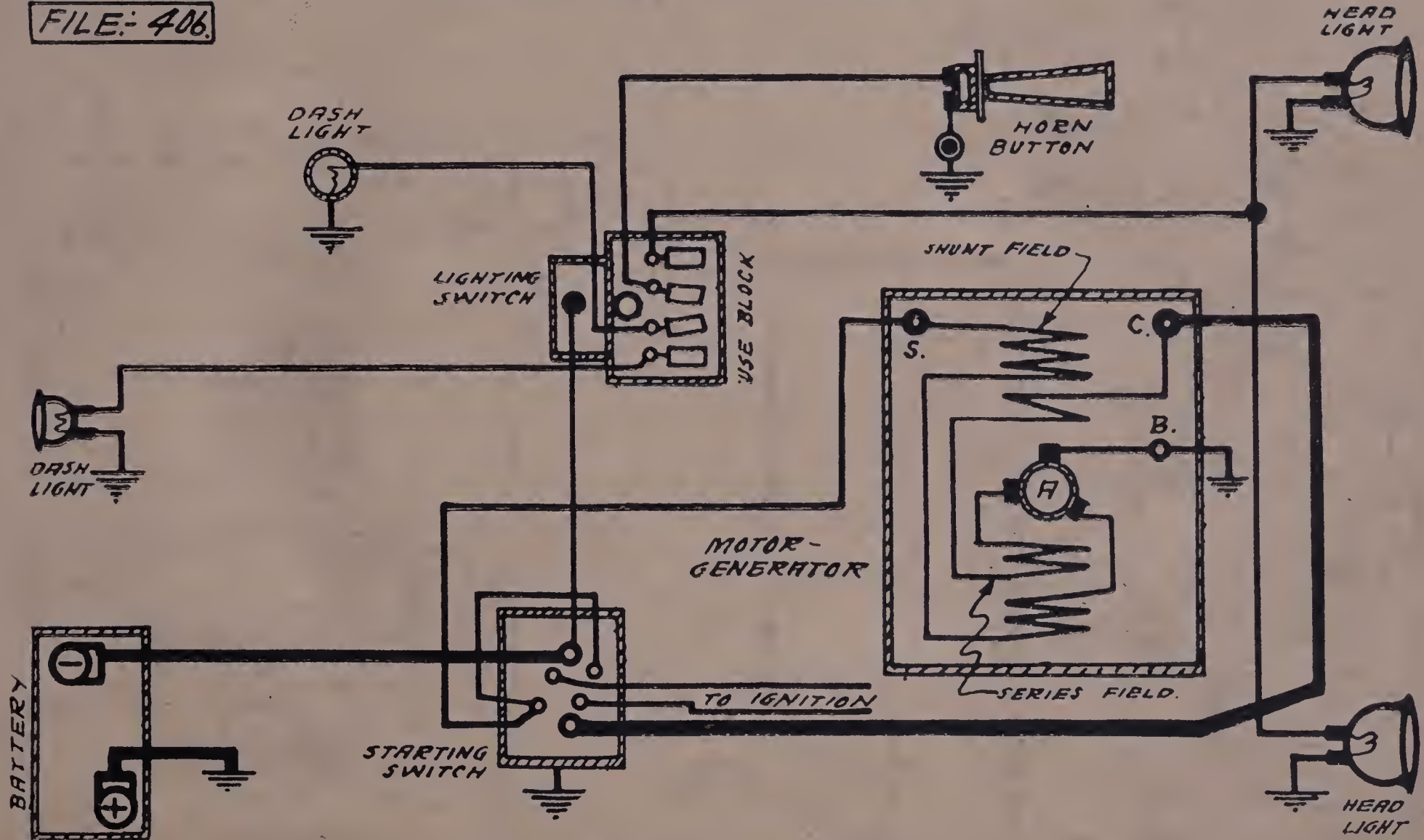
FILE: 85.



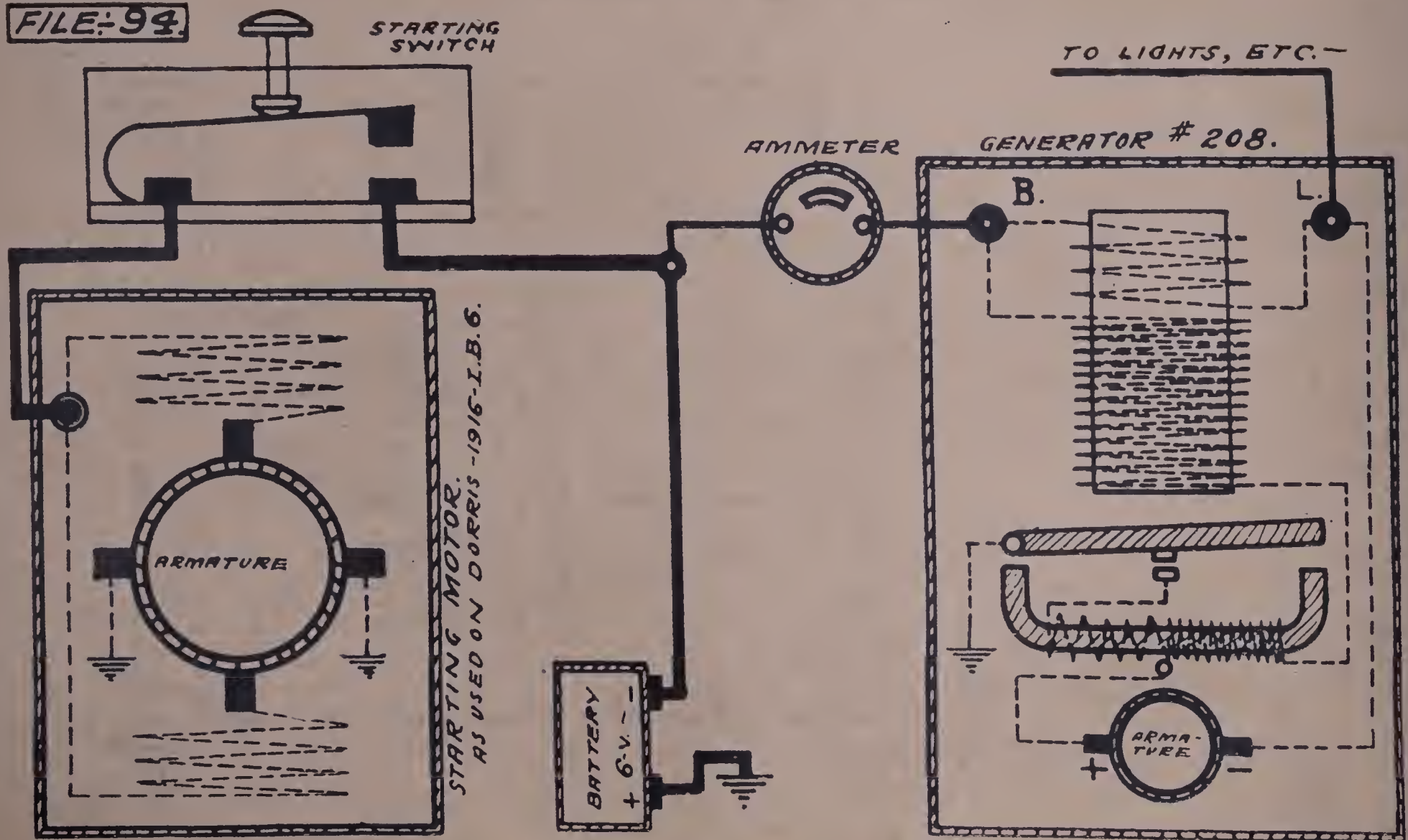
WESTINGHOUSE

DIAGRAM OF CONNECTIONS OF MOTOR-GENERATOR
SYSTEM USED ON HUPMOBILE.

FILE: 406.



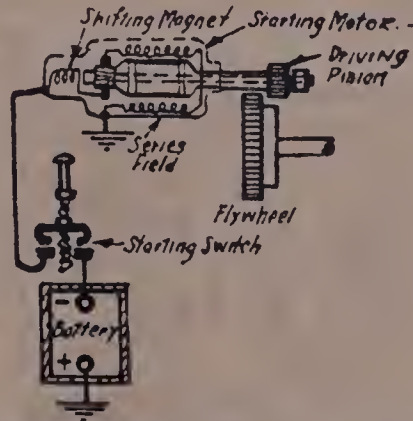
WESTINGHOUSE INTERNAL CIRCUITS.



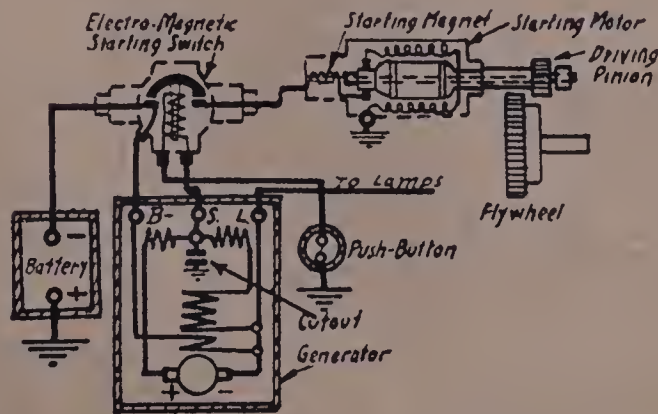
WESTINGHOUSE.

DIAGRAM OF ELECTRICAL CONNECTIONS FOR
AUTOMATIC ELECTRO-MAGNETIC PINION SHIFT.

FILE:- 406.

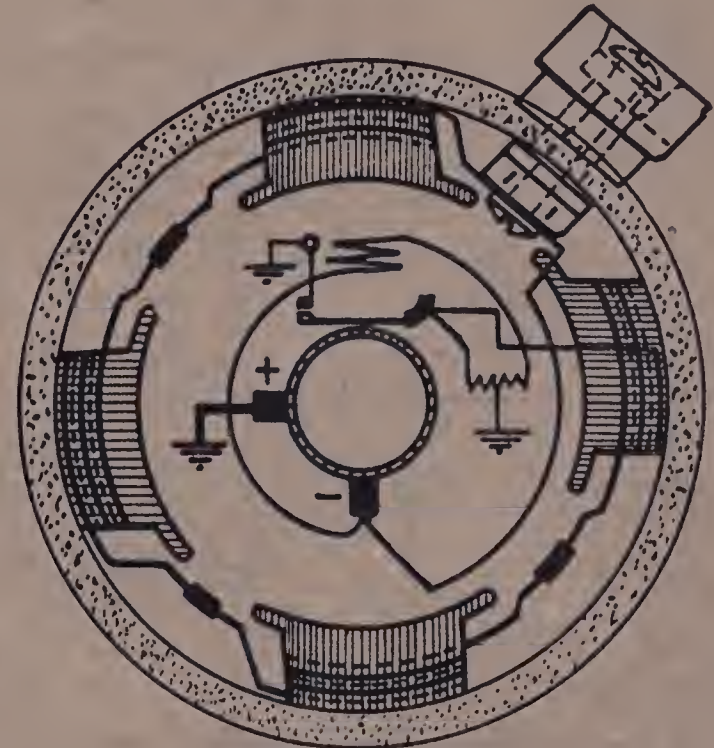


WITH HAND OR FOOT-OPERATED STARTING SWITCH



WITH ELECTRO-MAGNETICALLY-OPERATED STARTING
SWITCH CONTROLLED BY PUSH-BUTTON.

DIAGRAM OF GENERATOR USED WITH
EXTERNAL CUT-OUT SWITCH.

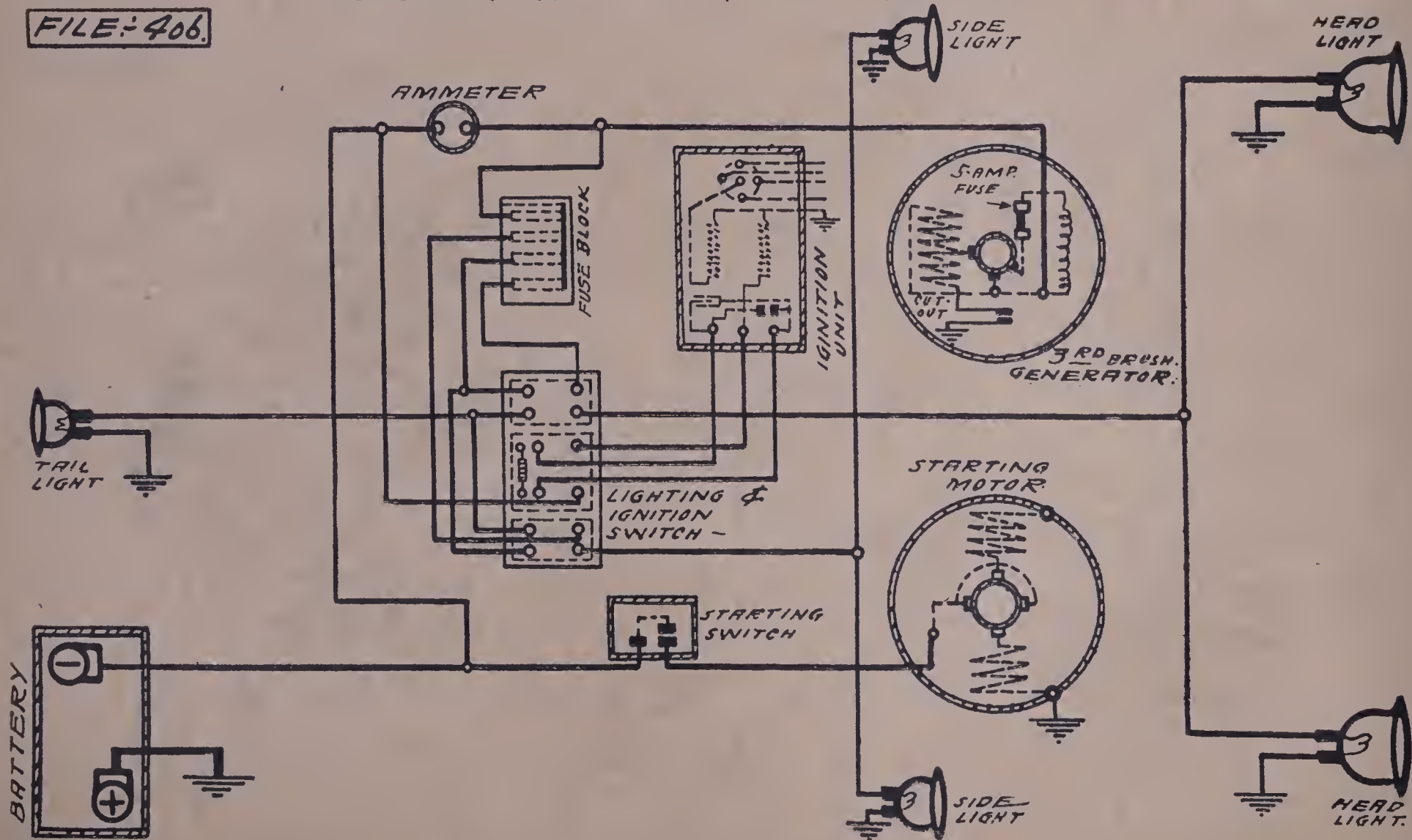


GENERATOR-

WESTINGHOUSE.

DIAGRAM OF CONNECTIONS OF STARTING & LIGHTING SYSTEM WITH VERTICAL IGNITION.-

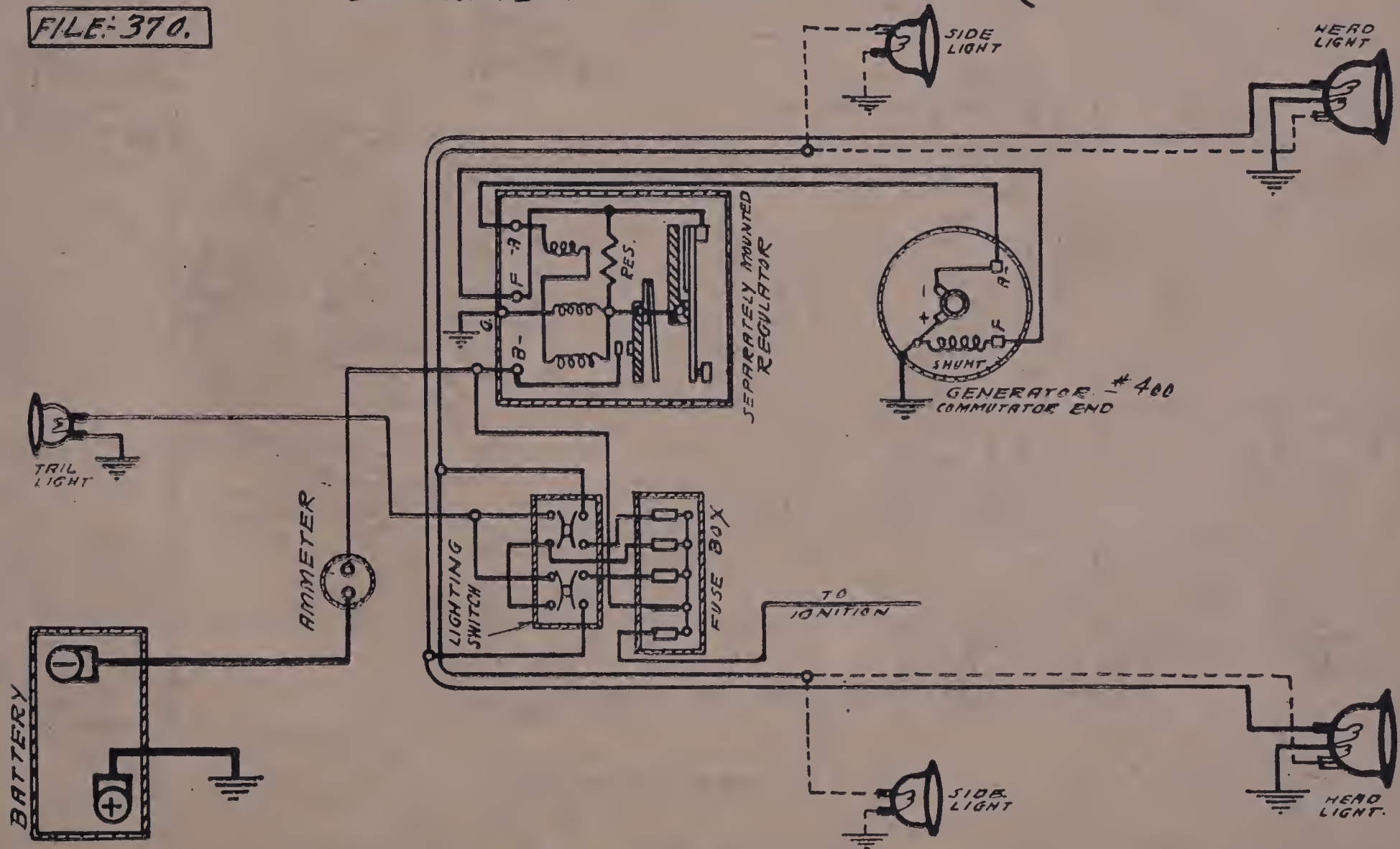
FILE: 406.



WESTINGHOUSE.

DIAGRAM OF CONNECTIONS OF COMPLETE SYSTEM WITH
SEPARATELY MOUNTED REGULATOR.

FILE: 370.



WESTINGHOUSE.

DIAGRAM OF CONNECTIONS OF COMPLETE LIGHTING
SYSTEM WITH INTERNAL CUT-OUT SWITCH.

FILE: 406.

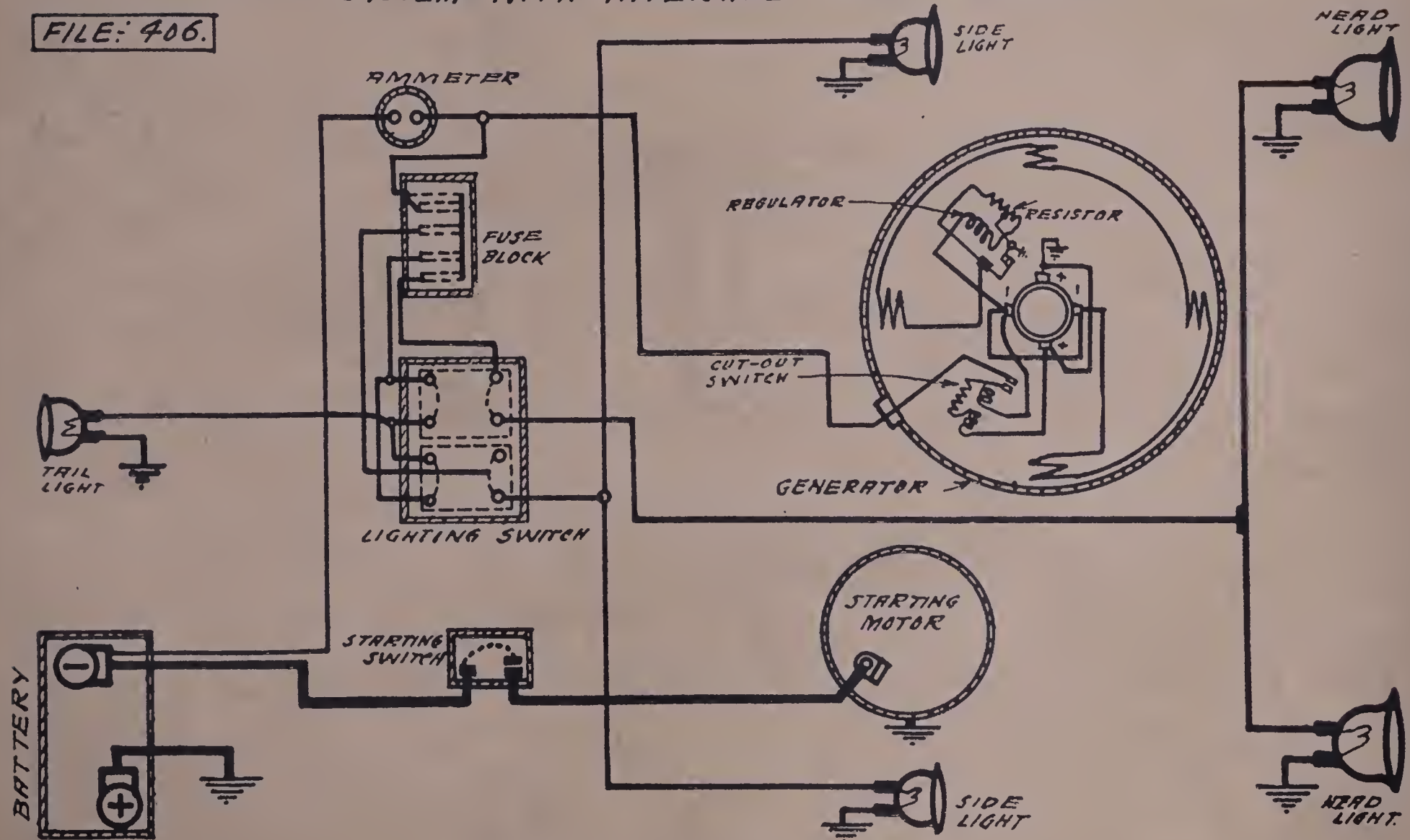


DIAGRAM OF CONNECTIONS OF COMPLETE LIGHTING SYSTEM WITH SEPARATELY MOUNTED CUT-OUT SWITCH.

FILE: 405.

Diagram illustrating a vehicle electrical system, likely for a truck or heavy vehicle, showing the connection of various lights and components.

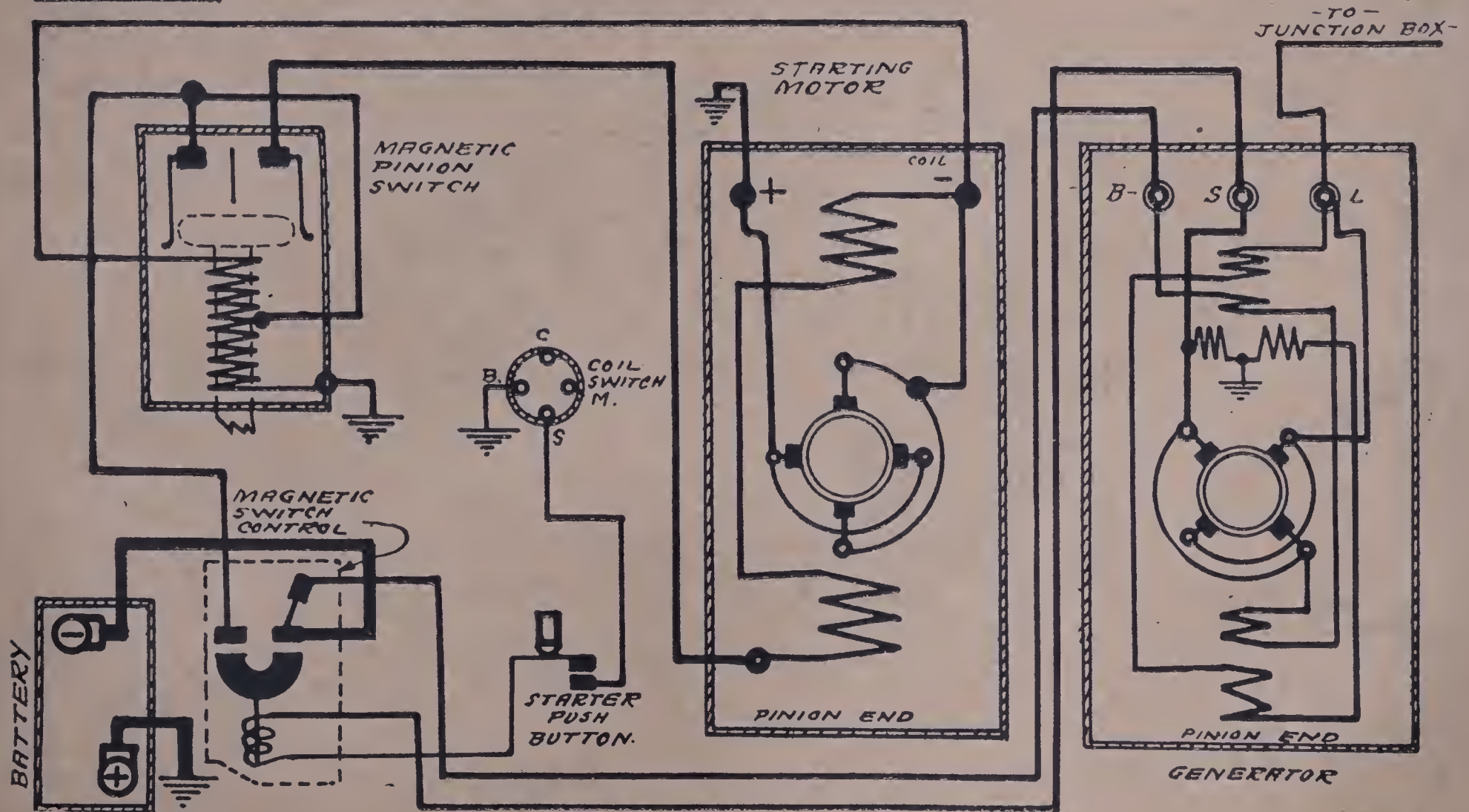
Components and Connections:

- BATTERY:** Located at the bottom left, connected to the main power line.
- TAIL LIGHT:** Connected to the main power line on the left side.
- HEAD LIGHTS:** Two headlight symbols are shown, one at the top right and one at the bottom right, both connected to the main power line.
- SEPARATELY MOUNTED CUT-OUT SWITCH:** Indicated by a wavy line and arrow pointing to the main power line.
- GENERATOR:** Labeled "#450 GENERATOR" with a "SHUNT FIELD" winding. It is connected to the main power line and ground.
- FUSE BOX:** A central component with multiple fuses, connected to the main power line and ground.
- LIGHTING SWITCH:** Connected to the main power line and ground.
- AMMETER:** A circular symbol with a wavy line, connected in series with the main power line.
- SIDE LIGHT (IF-USED):** Two side light symbols are shown, one at the top left and one at the bottom left, both connected to the main power line.
- TO EXTRA; IGNITION, etc.:** A dashed line indicating a connection to other electrical components.

WESTINGHOUSE

DIAGRAM OF CONNECTIONS OF STARTING MOTOR, MAGNETIC SWITCH, ETC.
AS USED ON 1914-1915 PIERCE-ARROW CARS.

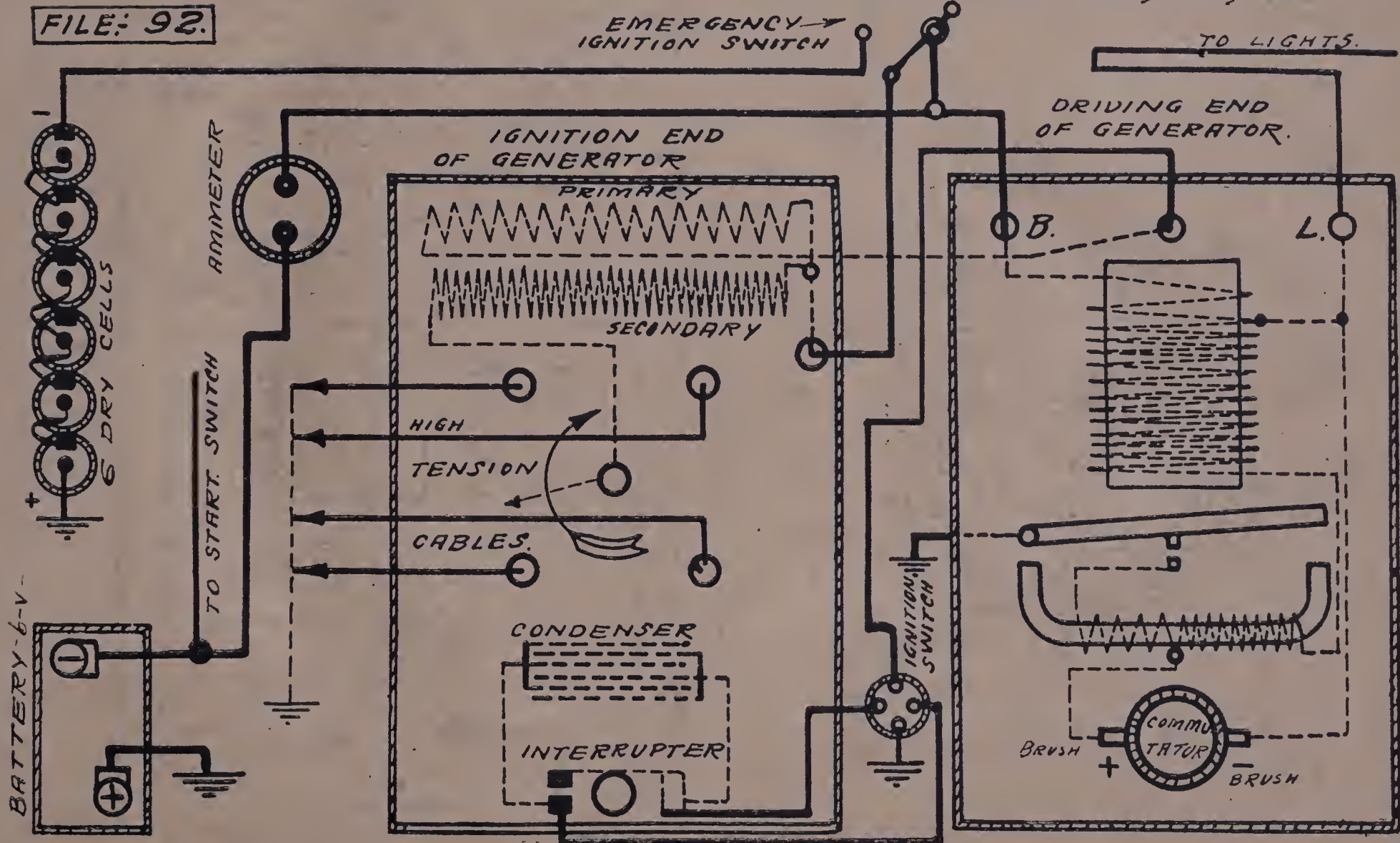
FILE: 399.-



WESTINGHOUSE

INTERNAL CIRCUITS

IGNITION AND LIGHTING GENERATOR Nos 236, 246, 280

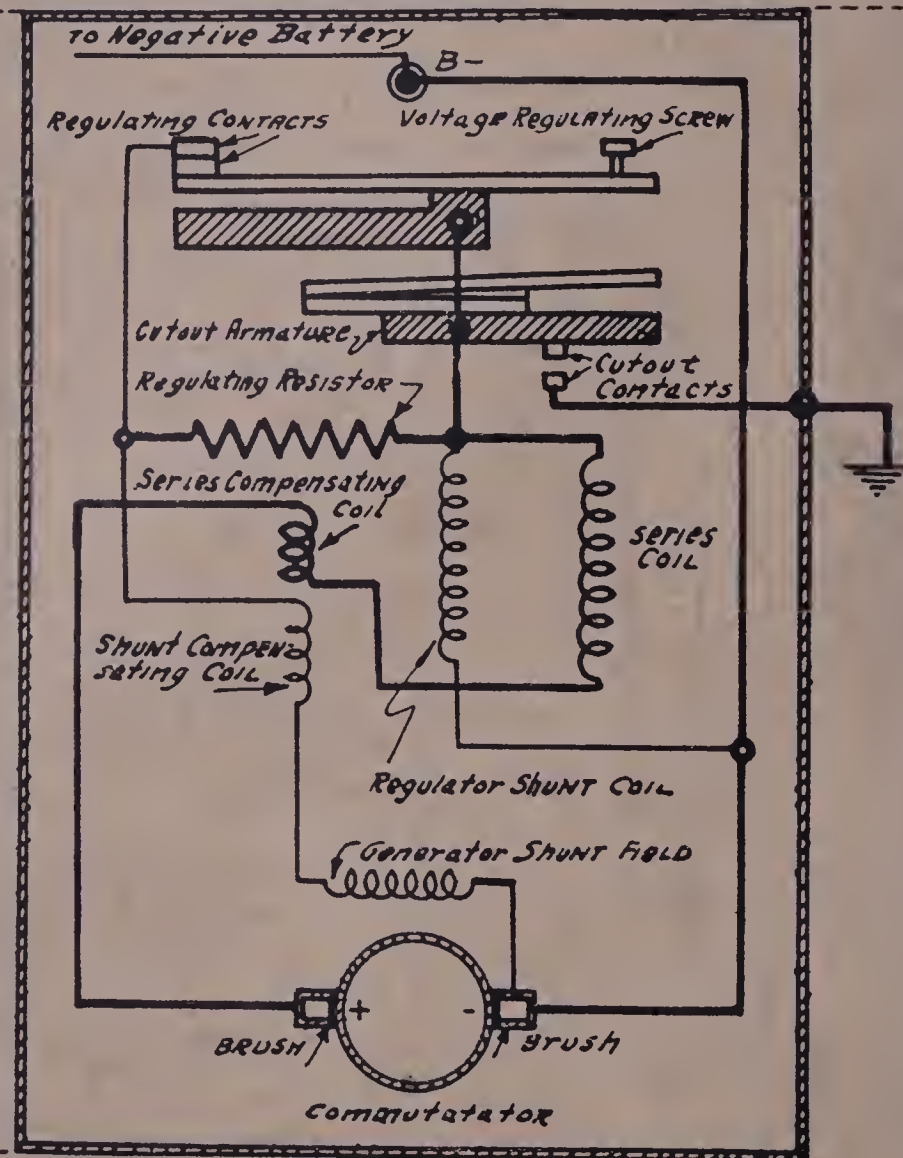
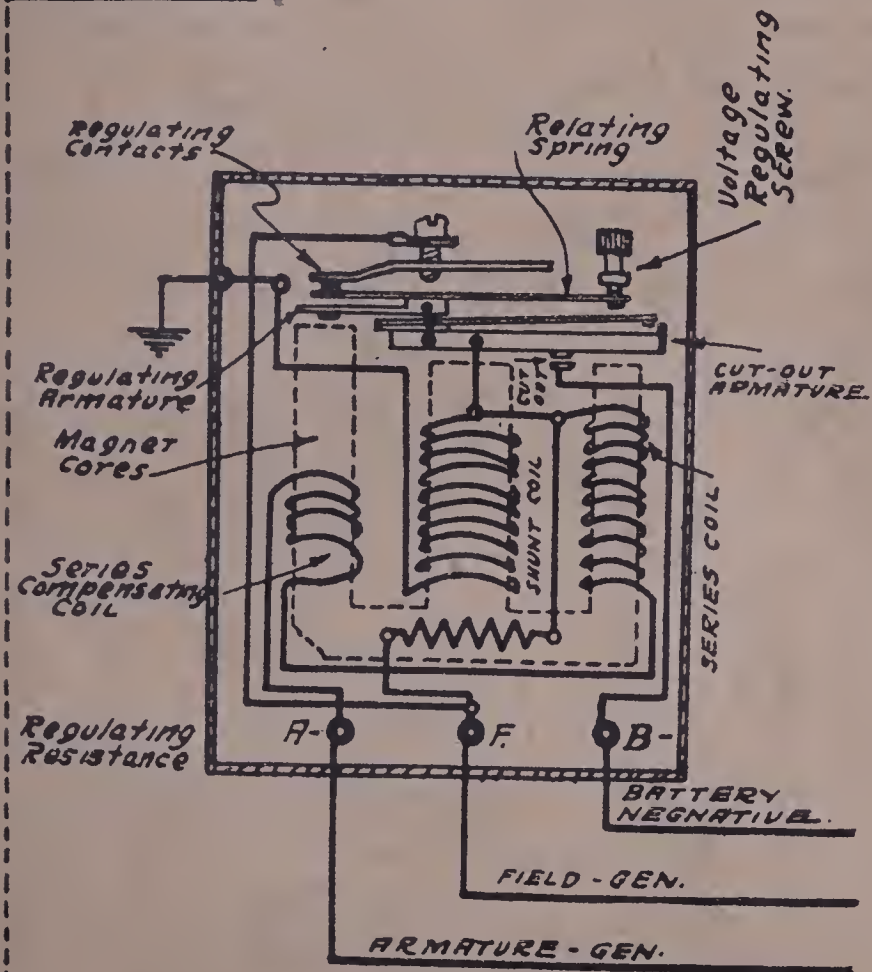


WESTINGHOUSE.

VOLTAGE REGULATOR
AS USED WITH #400 GENERATOR

208-R. LIGHTING GENERATOR
AND REGULATOR.

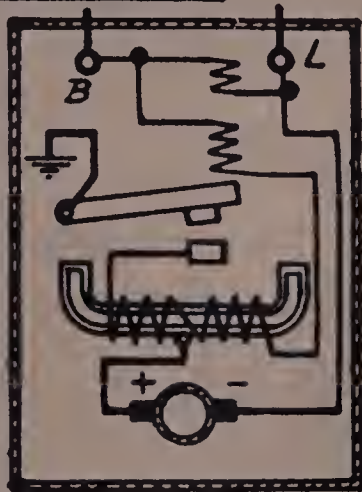
FILE: 370.



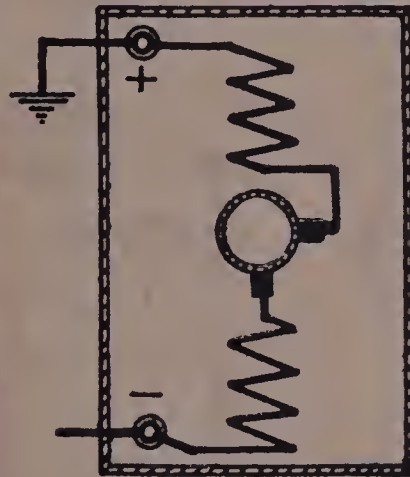
WESTINGHOUSE

INTERNAL CIRCUITS OF STARTING MOTORS, GENERATORS, AND CUT-OUTS.

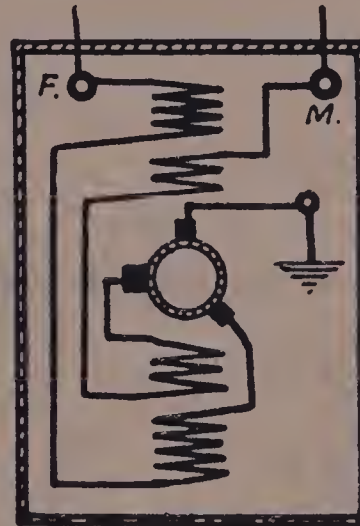
FILE-371.



GENERATOR # 201, #520.



STARTING MOTOR #300.



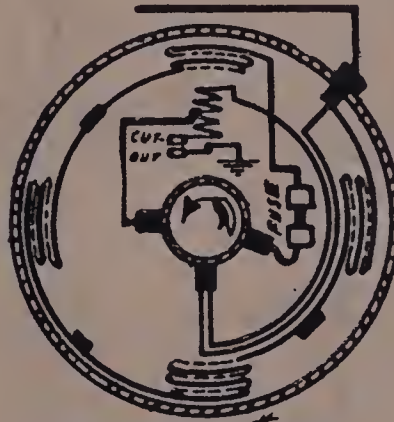
MOTOR-GENERATOR #600



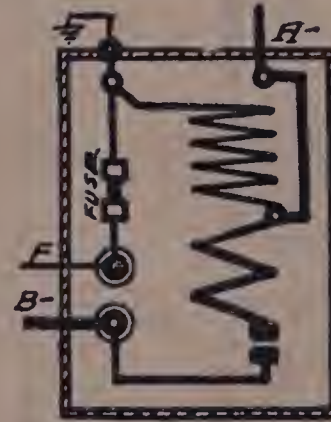
STARTING MOTOR #700.



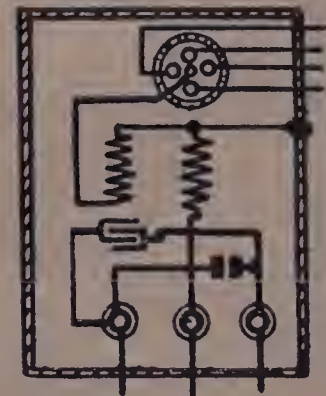
STARTING MOTOR #710



GENERATOR #760



SEPARATELY MOUNTED
CUT-OUT SWITCH



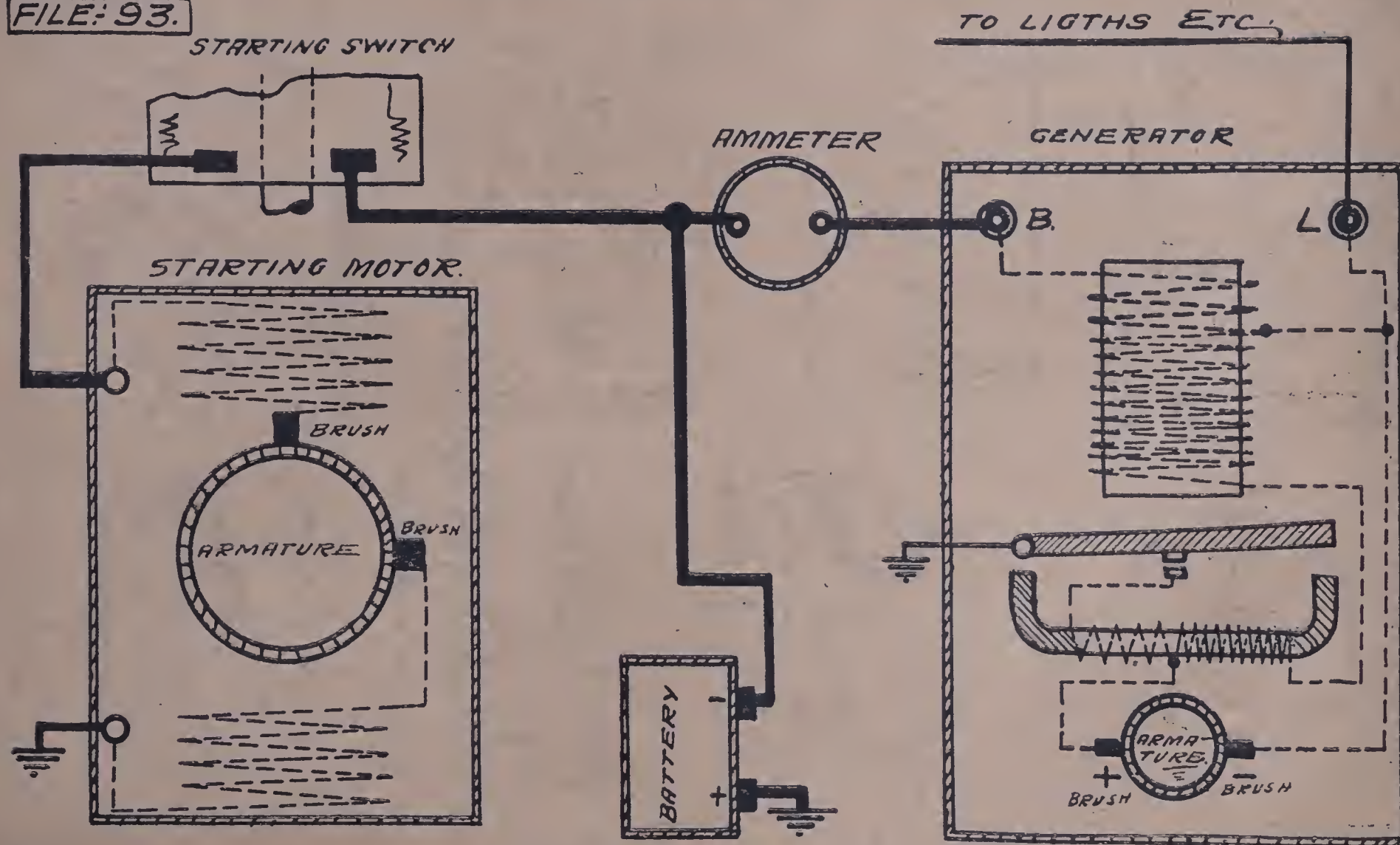
VERTICAL IGNITION

WESTINGHOUSE

INTERNAL CIRCUITS.

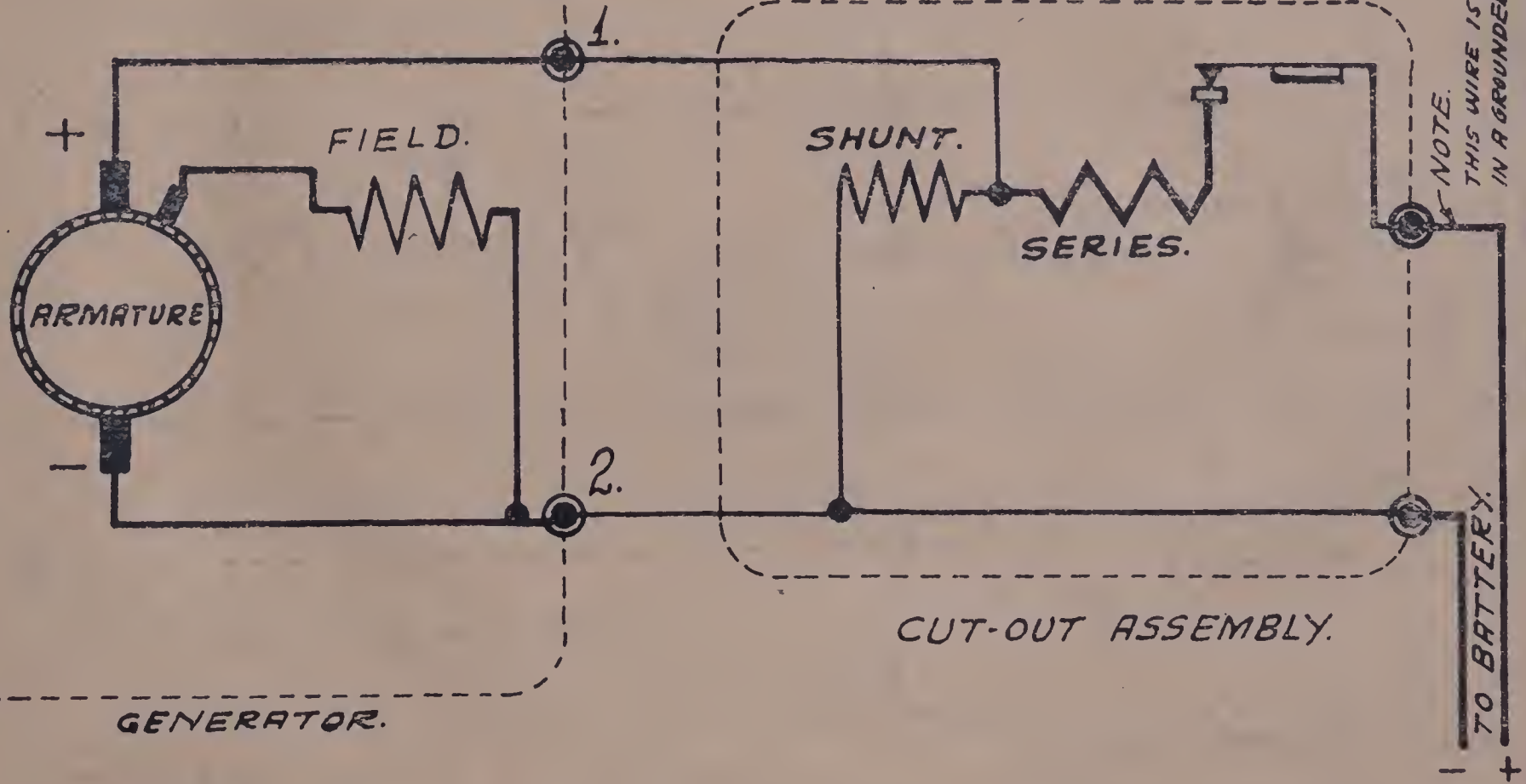
AS USED ON DORRIS 1915-MODEL I-A-6.

FILE: 93.



ATWATER-KENT.
3rd. BRUSH SHUNT GENERATOR
AS USED ON PACKARD SINGLE SIX.

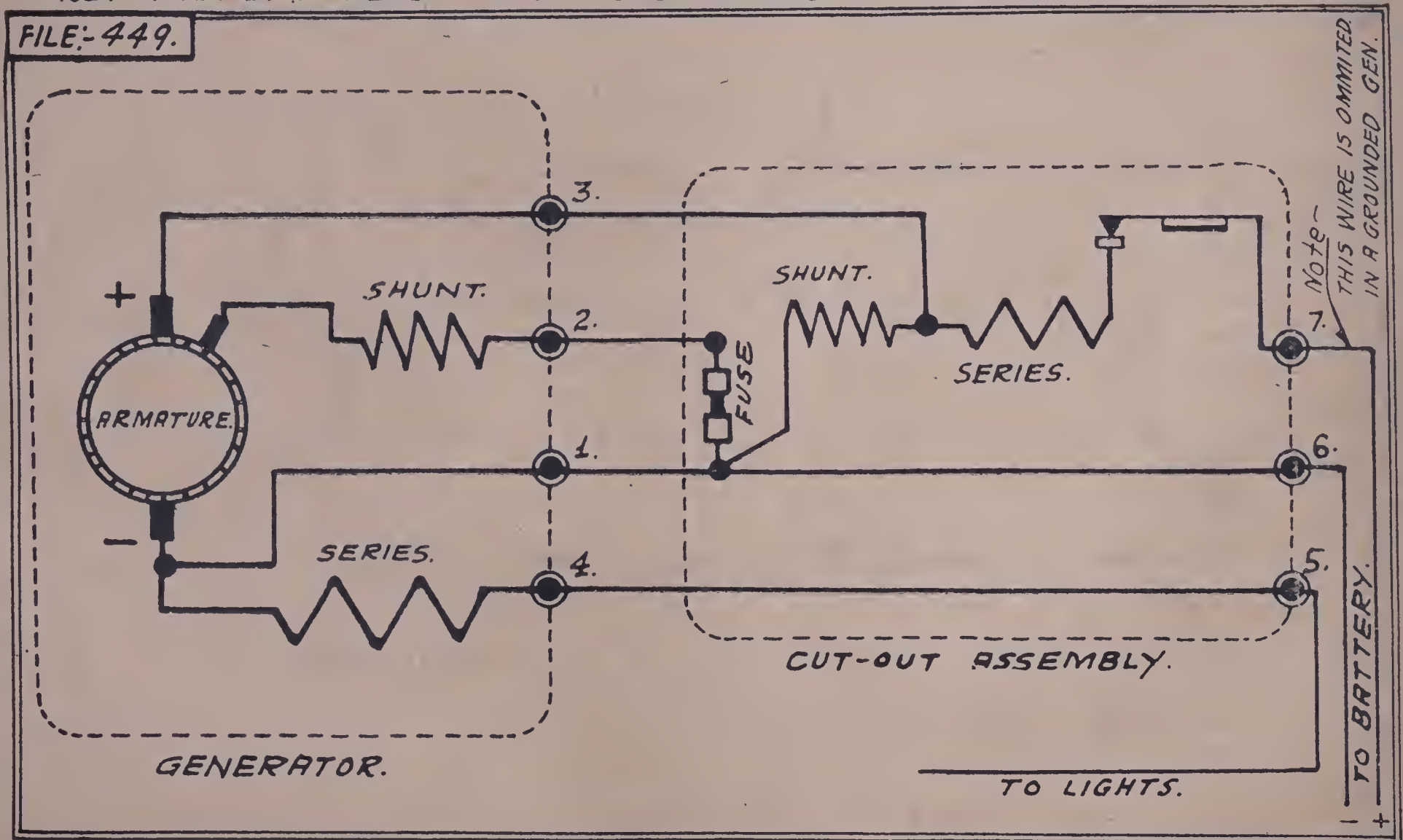
FILE:-449.



ATWATER-KENT. 3rd BRUSH COMPOUND GENERATOR.

REPLACEMENT GENERATOR FOR CHANDLER AND PAIGE CARS.

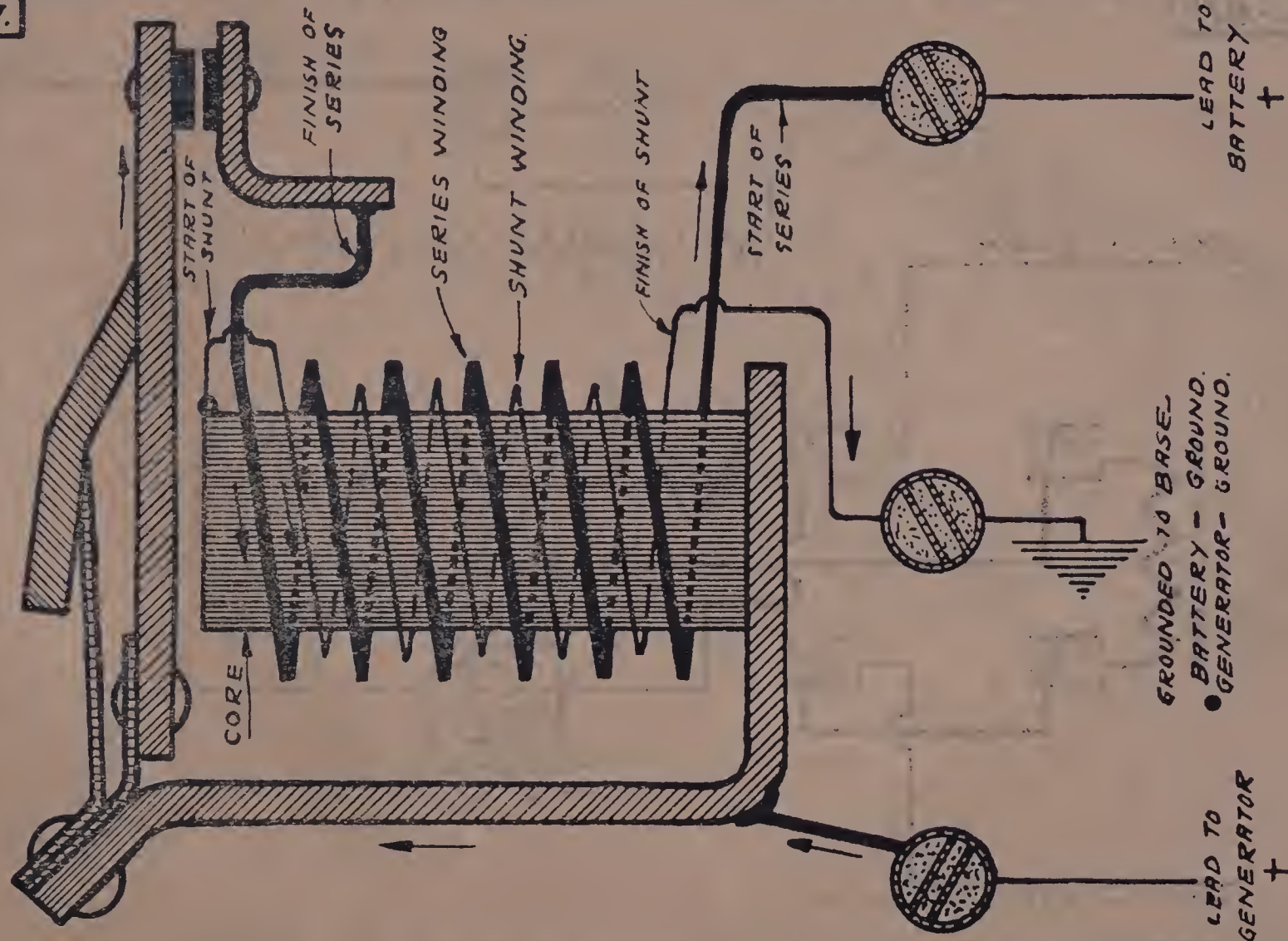
FILE:- 449.



AUTO-LITE

INTERNAL WIRING DIAGRAM FOR CIRCUIT-BREAKERS—1051,-1069,-1072

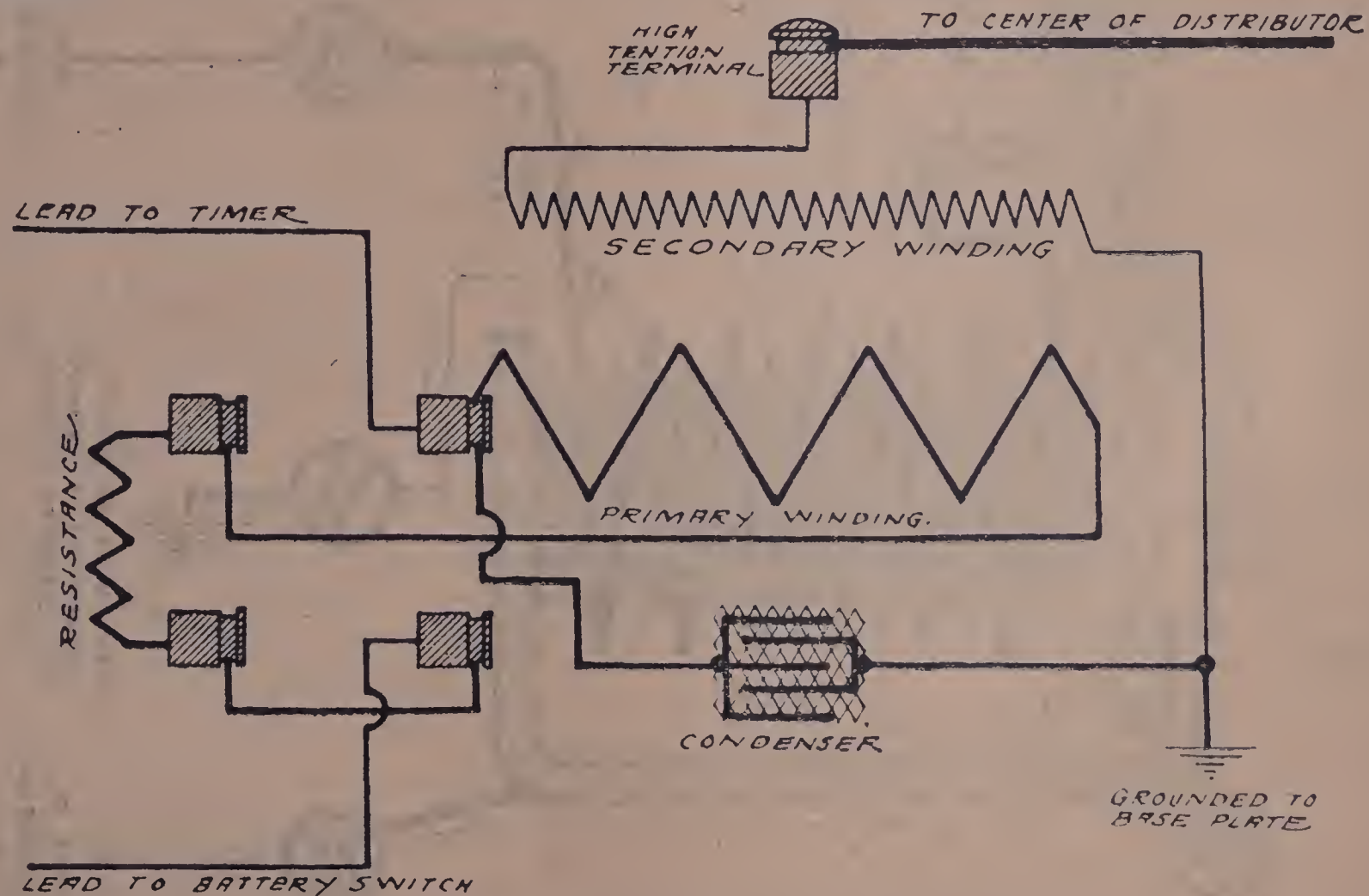
FILE:-417.



AUTO-LITE

INTERNAL CONNECTIONS OF IGNITION COIL - 1G-2000

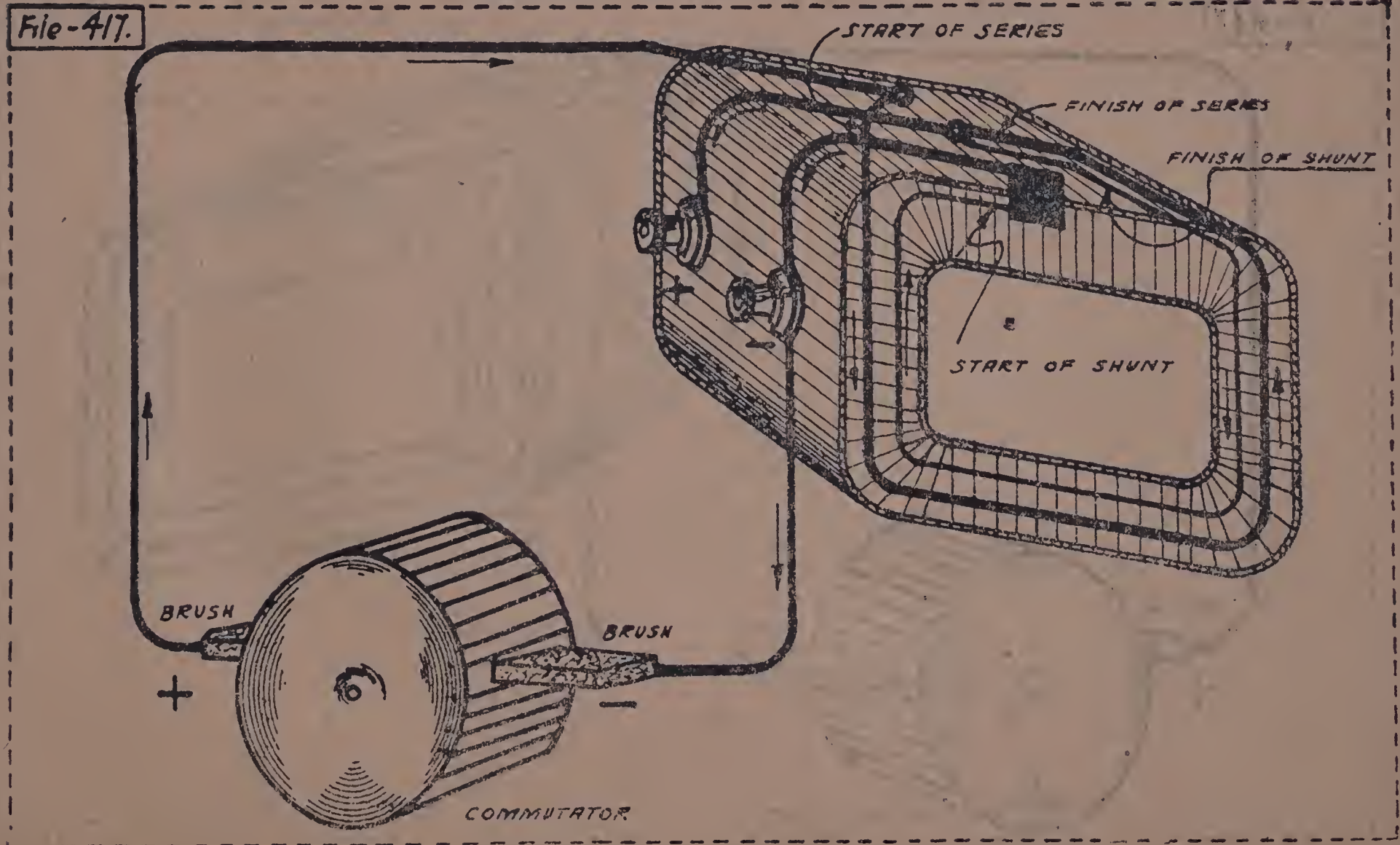
FILE: 417.



AUTO-LITE

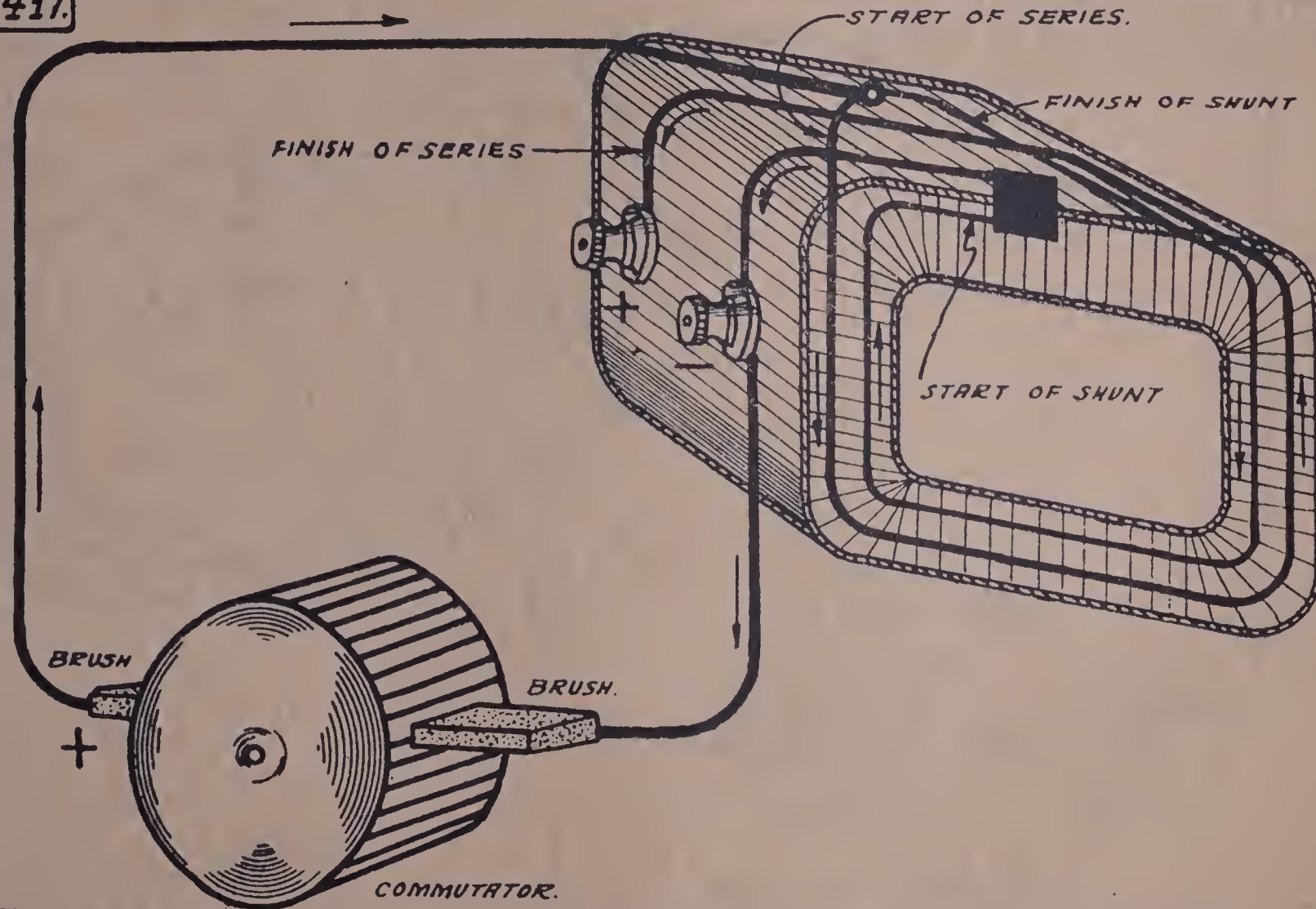
GENERATORS-GA, -GF, -ENGINE SPEED.

LONG SHUNT.



AUTO-LITE
GENERATOR — GA. $1\frac{1}{2}$ ENGINE SPEED.
SHORT SHUNT.

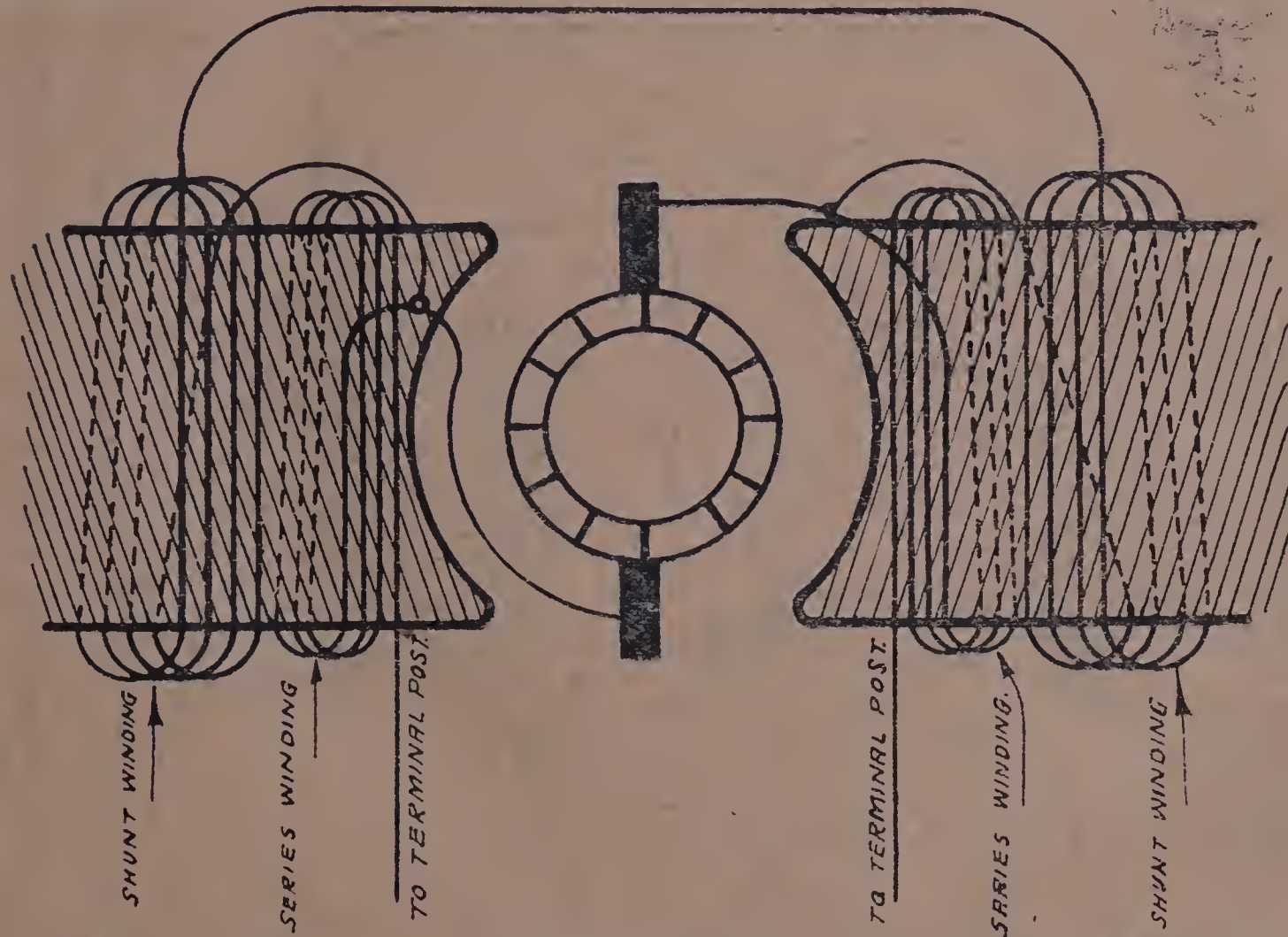
FILE: 417.



AUTO-LITE

FIELD WINDING FOR GENERATOR - G.B.

FILE: 417.

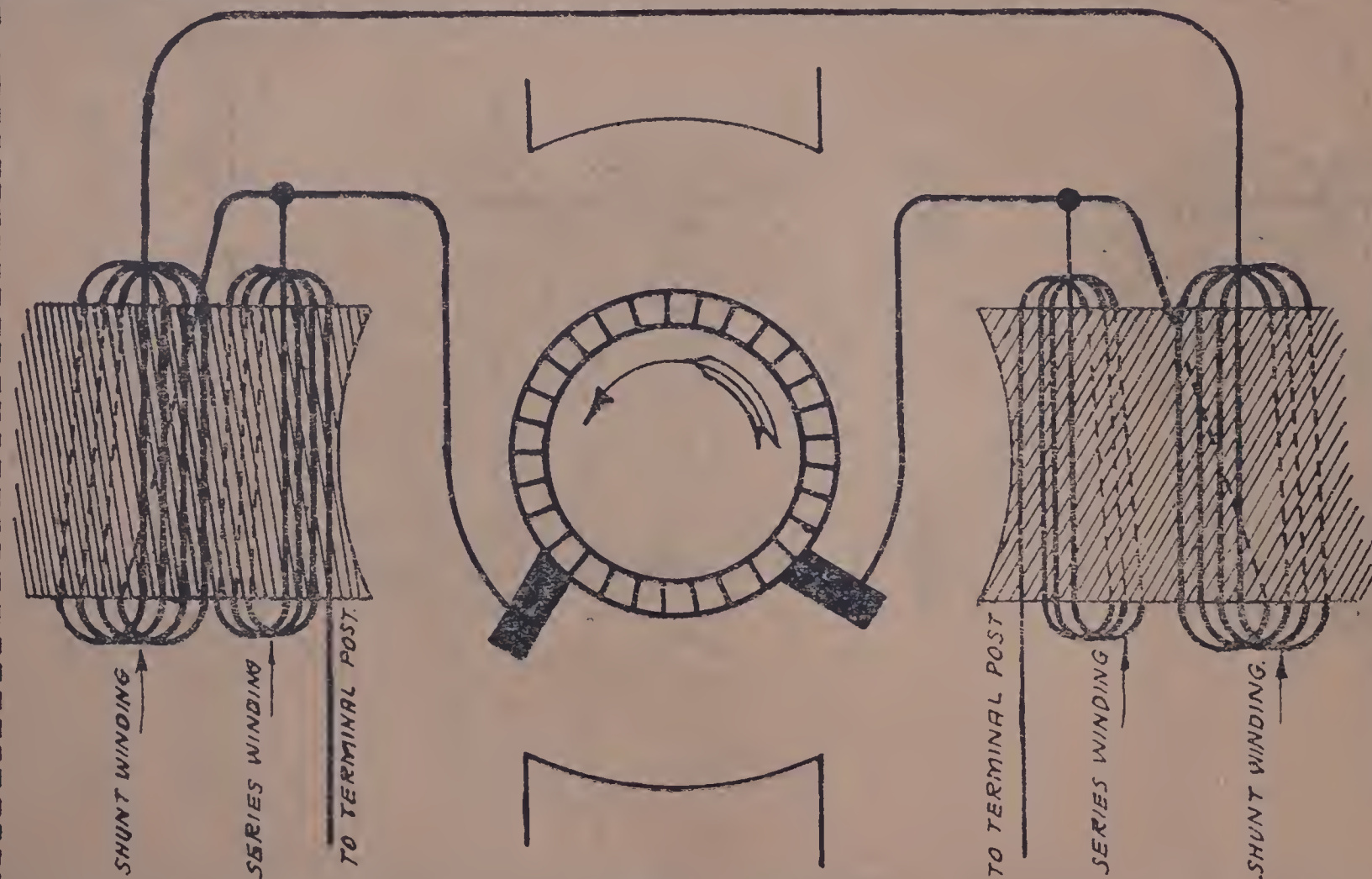


COUNTER CLOCKWISE ROTATION
FOR CLOCKWISE ROTATION REVERSE BRUSH CONNECTIONS

WHEN DETERMINING DIRECTION OF ROTATION, FACE
COMMUTATOR

AUTO-LITE
FIELD WINDING FOR GENERATOR - GC, -GD.

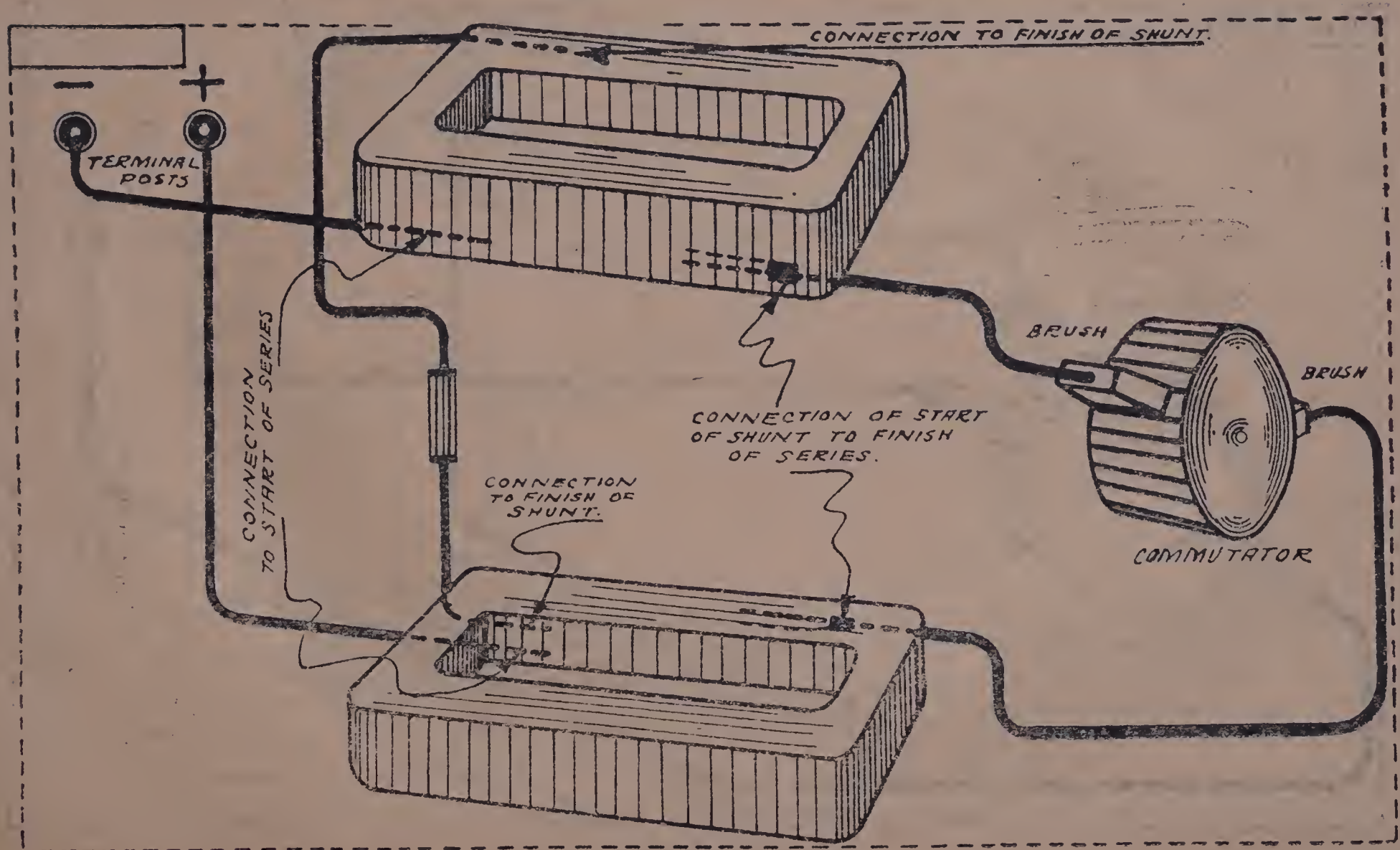
FILE: 417.



COUNTER CLOCKWISE ROTATION
FOR CLOCKWISE ROTATION REVERSE BRUSH CONNECTIONS
WHEN DETERMINING DIRECTION OF ROTATION, FACE:
COMMUTATOR.

AUTO-LITE

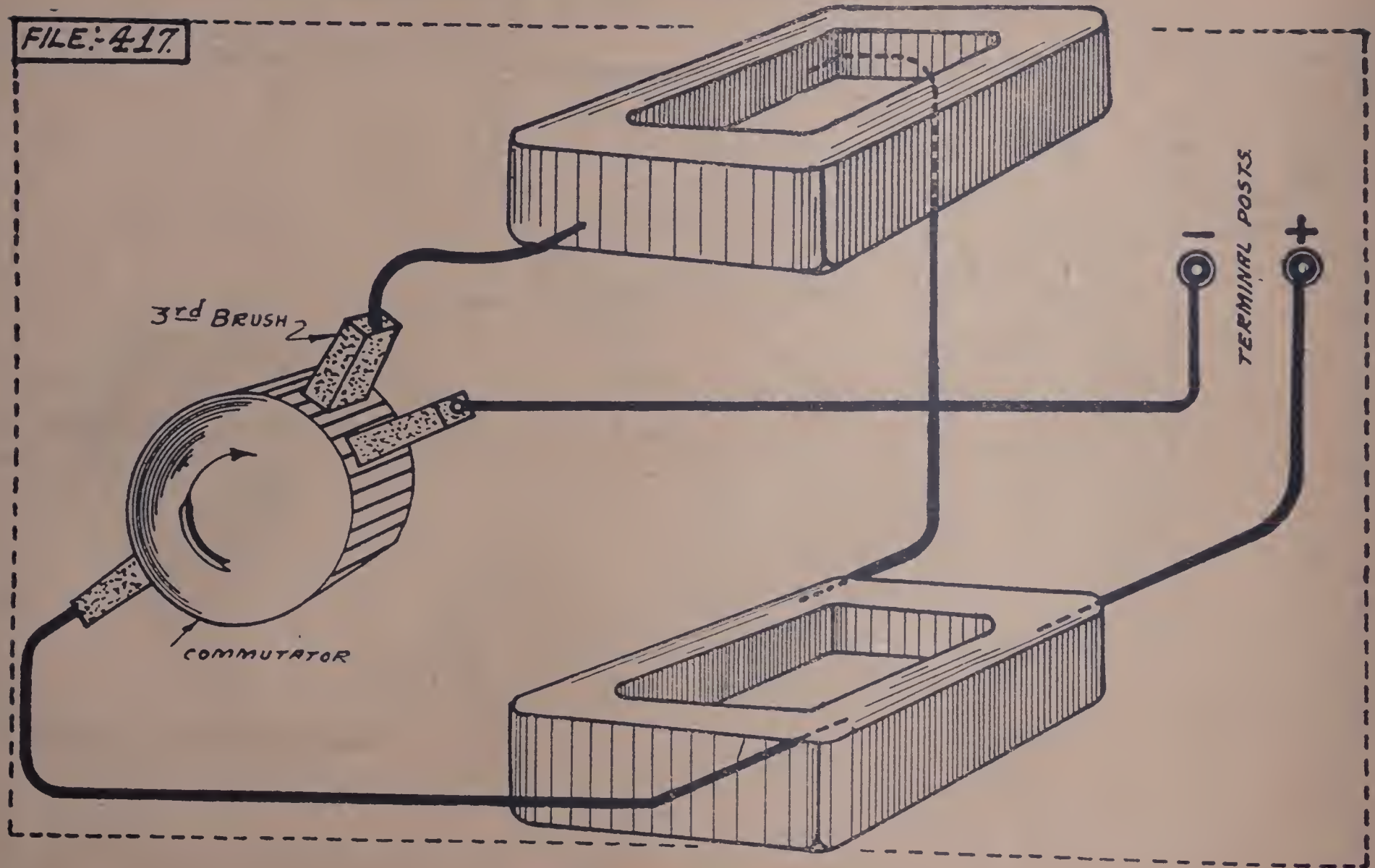
INTERNAL CONNECTIONS OF GENERATOR - GG.



AUTO-LITE

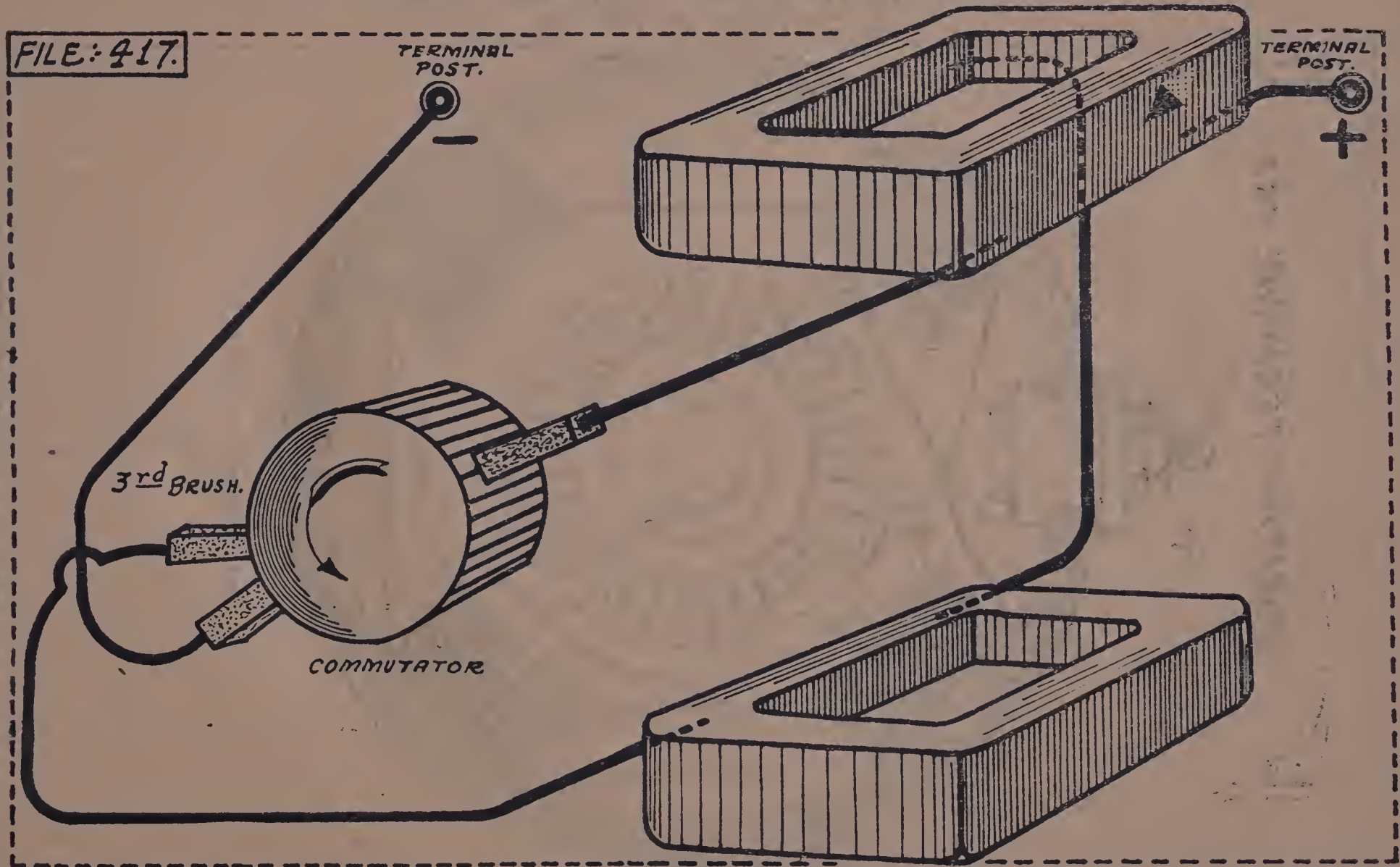
GENERATOR - GH. — CLOCKWISE ROTATION.

FILE:-417.



AUTO-LITE. GENERATOR-GH. — COUNTER CLOCKWISE ROTATION.

FILE: 417.



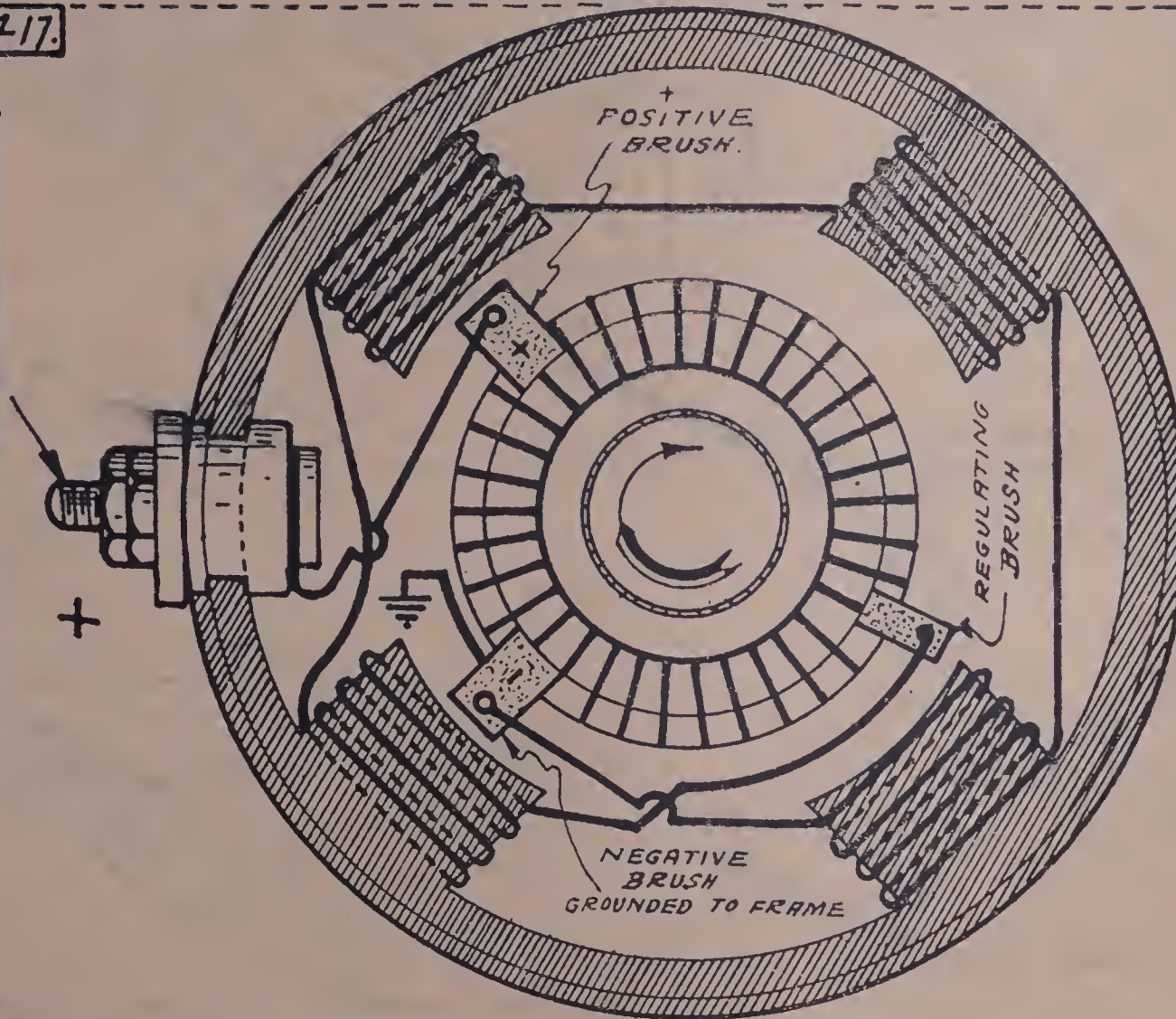
AUTO-LITE

GENERATORS — GJ-AND-GK.

CLOCKWISE ROTATION.

FILE-417.

POSITIVE TERMINAL POST.



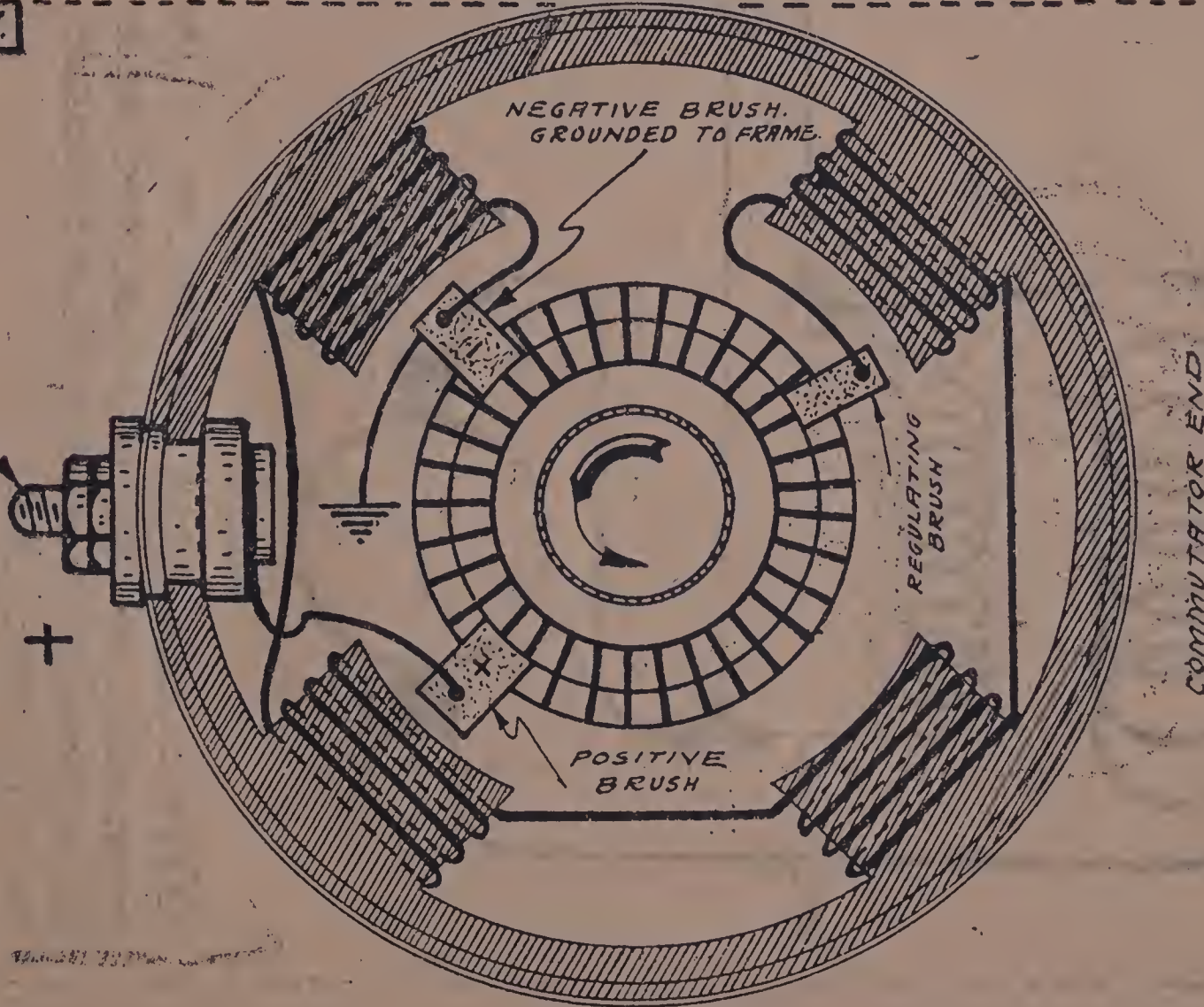
COMMUTATOR END

AUTO-LITE

GENERATORS — GJ — AND — GK.
COUNTER-CLOCKWISE ROTATION

FILE: 417.

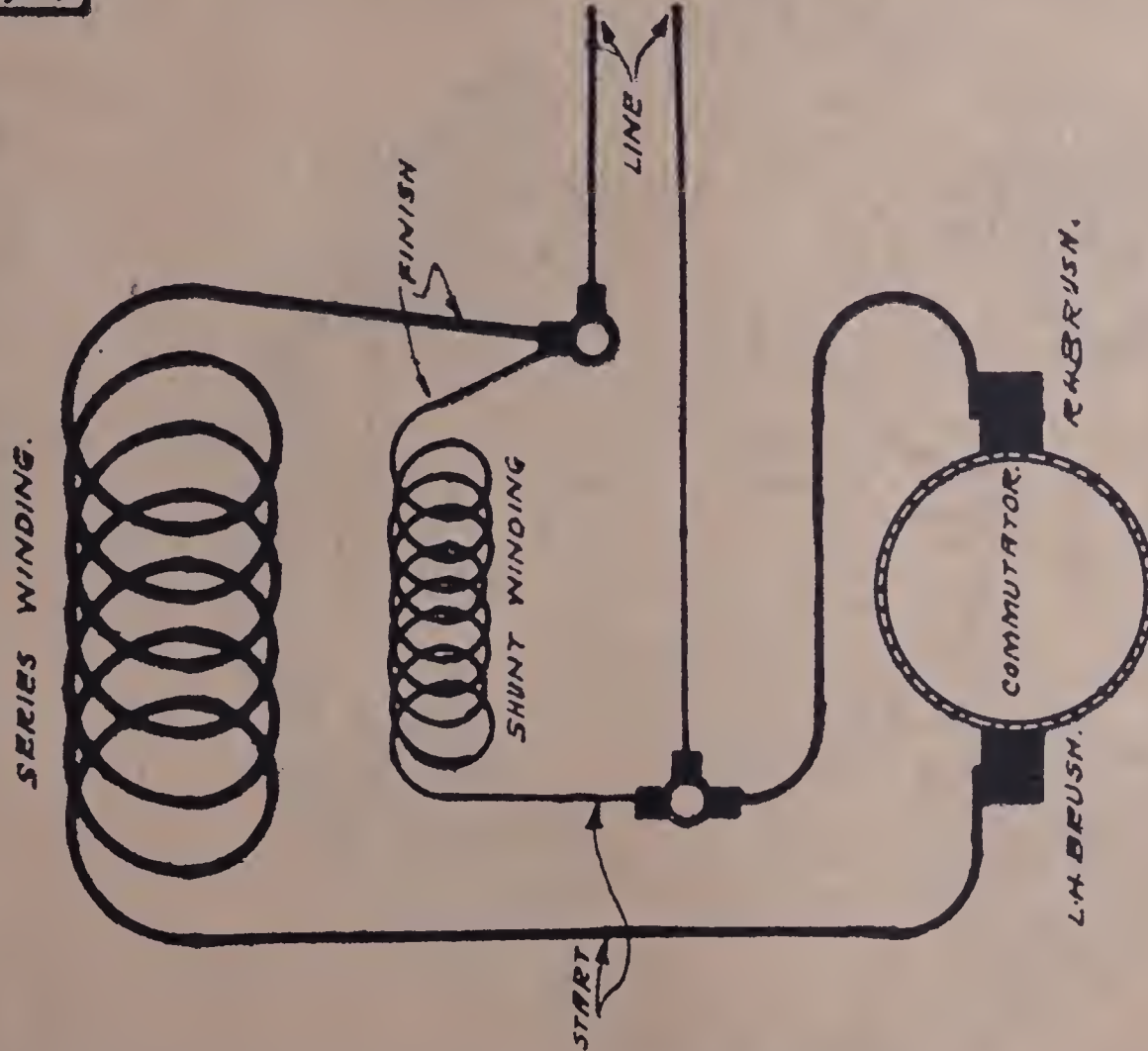
POSITIVE TERMINAL POST.



AUTO-LITE

DIAGRAM OF FIELD COIL CONNECTION.

FILE-417.

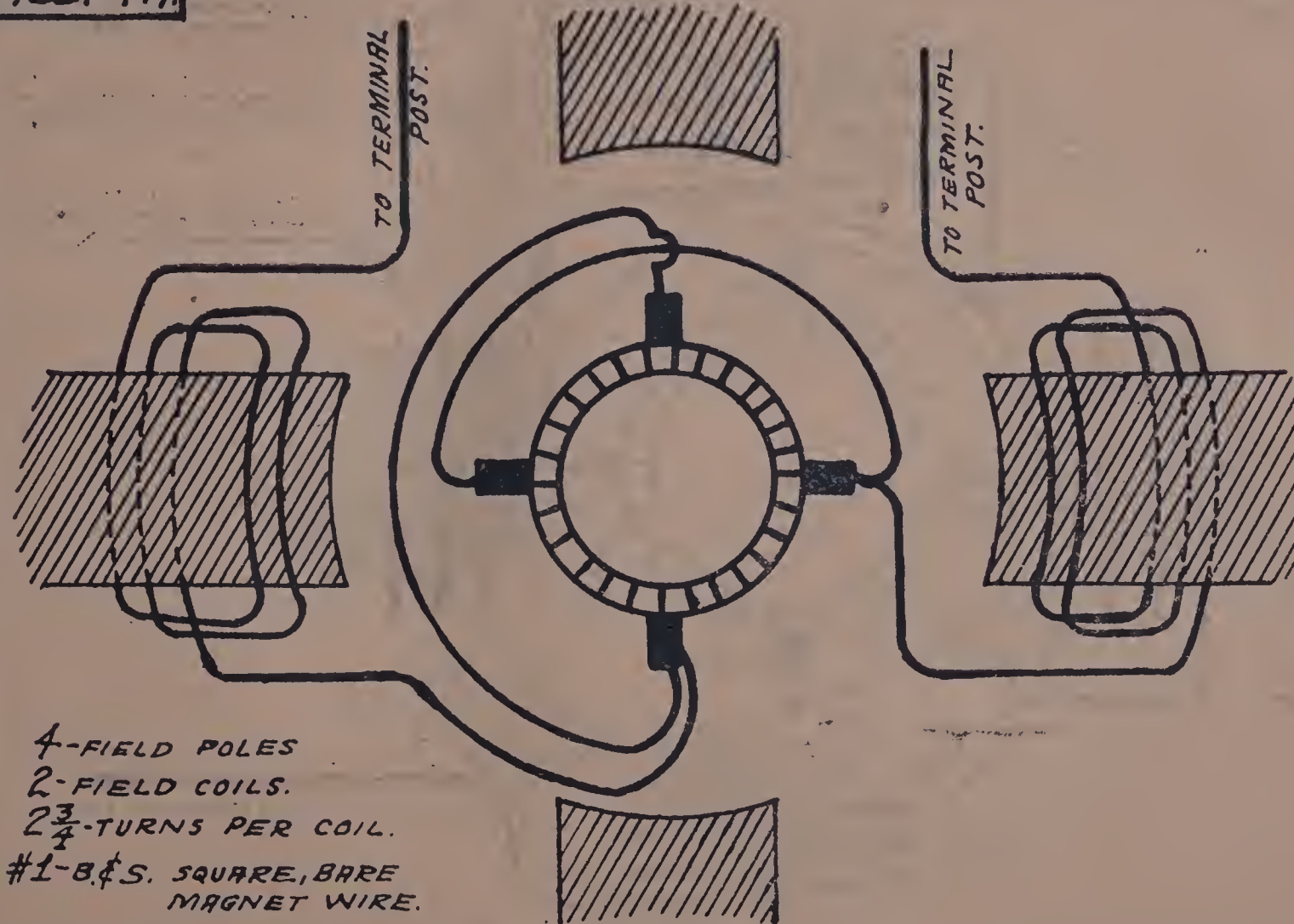


Note:— WIND SERIES AND SHUNT COIL IN THE SAME DIRECTION. BRING WIRES FROM TOP OF COIL IN DIRECTION OF WINDING, TO TERMINALS ON FIELD WINDING COVER.

AUTO-LITE

MODEL-M-STARTING MOTOR.

FILE:-417.



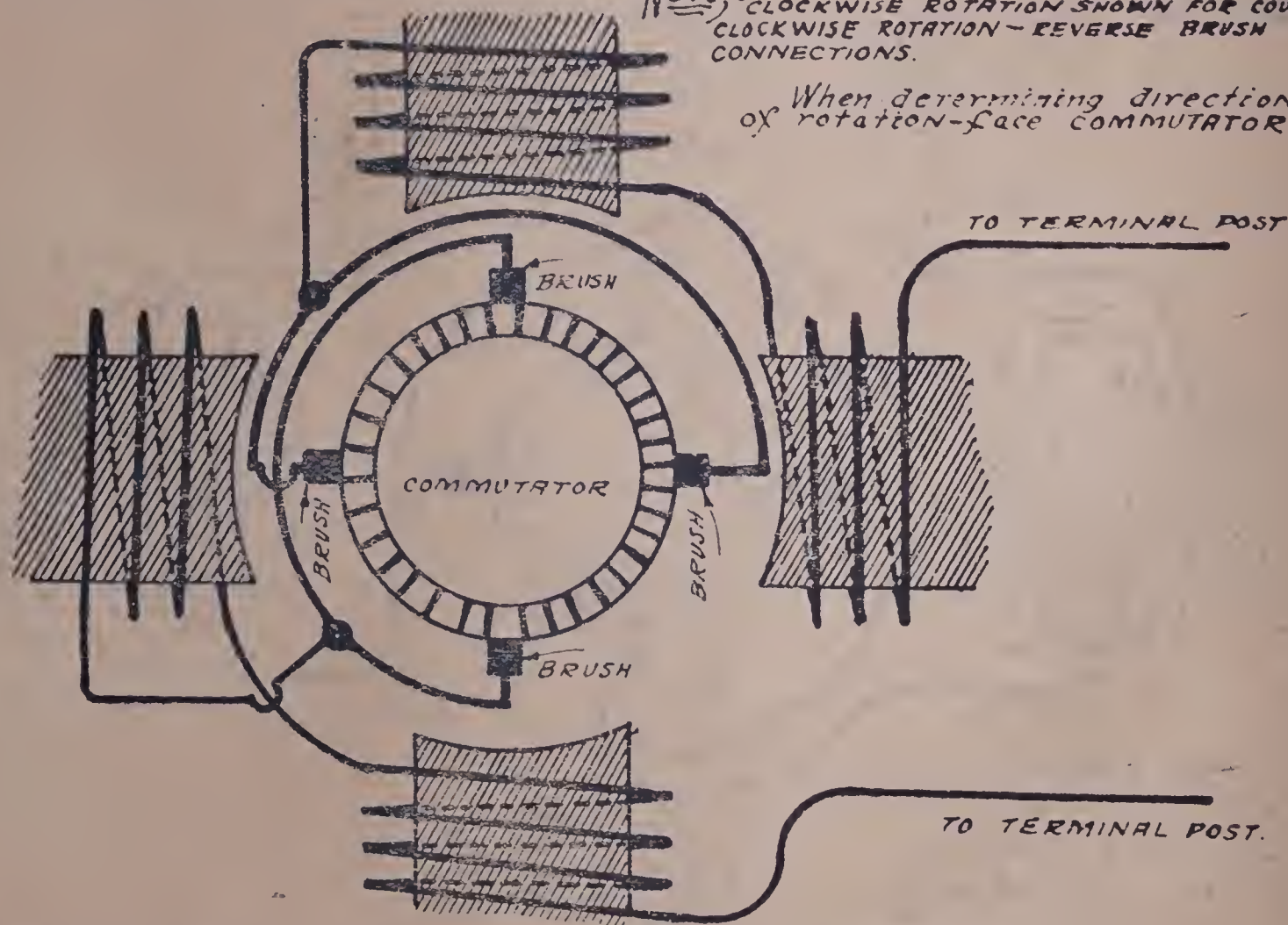
AUTO-LITE

STARTING MOTORS — MD, MC, MF, ME.

FILE:-417

Note: -CLOCKWISE ROTATION SHOWN FOR COUNTER
CLOCKWISE ROTATION - REVERSE BRUSH
CONNECTIONS.

When determining direction
of rotation - face COMMUTATOR.

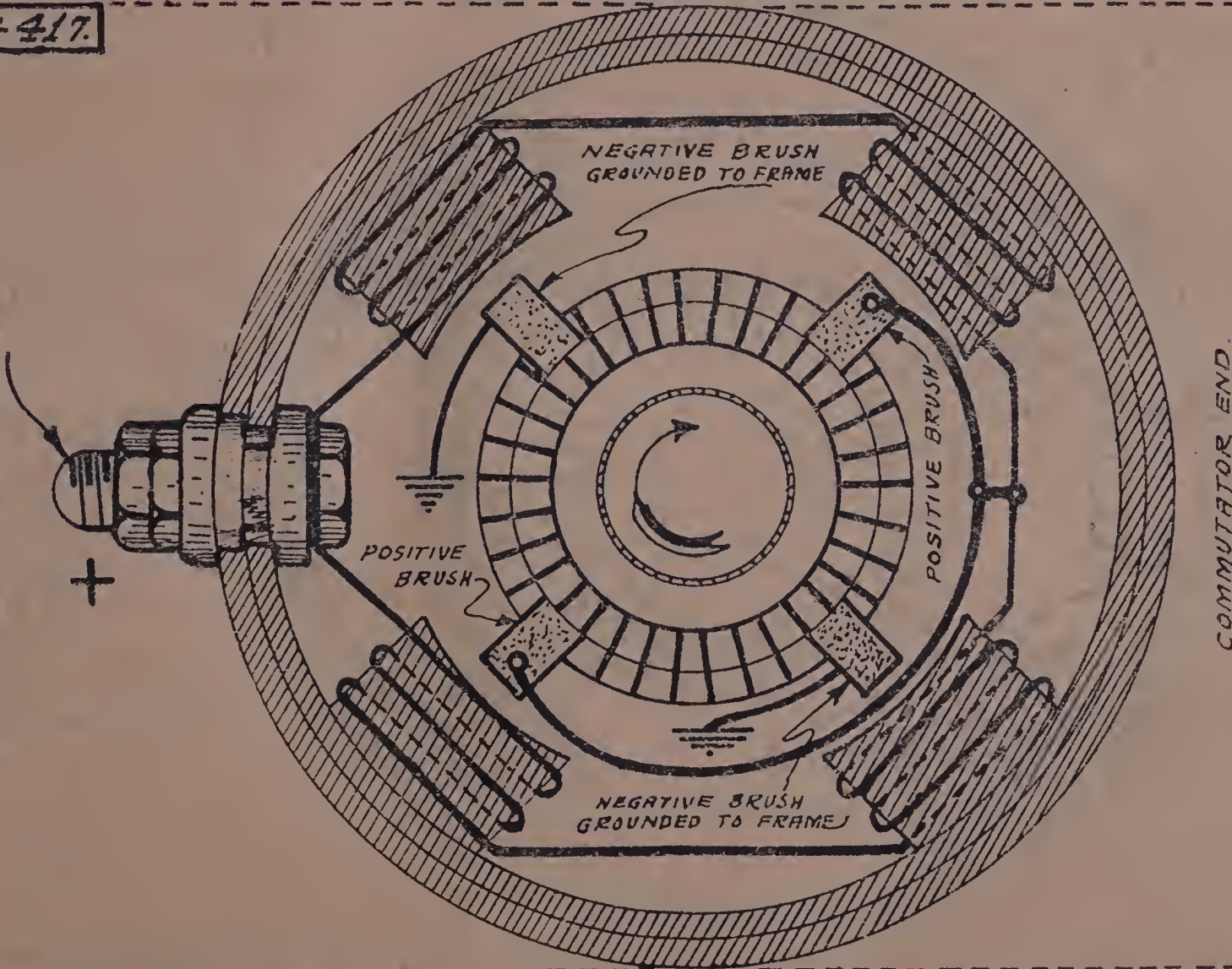


AUTO-LITE

STARTING MOTORS-MG -AND- MH.
CLOCKWISE ROTATION

FILE: 417.

POSITIVE TERMINAL POST

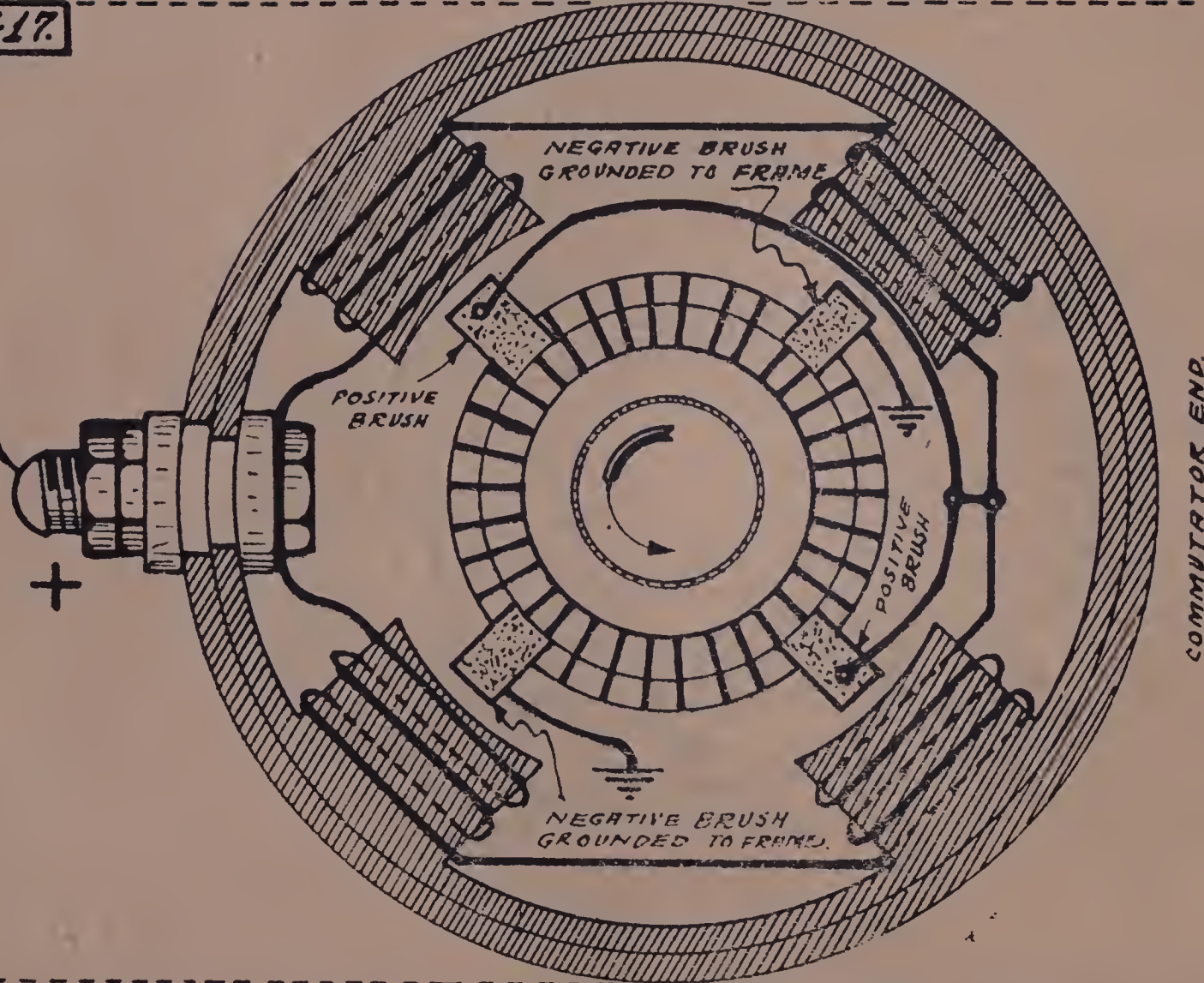


AUTO-LITE

STARTING MOTORS—MG—AND—MH.
COUNTER CLOCKWISE ROTATION.

FILE: 417.

POSITIVE TERMINAL POST

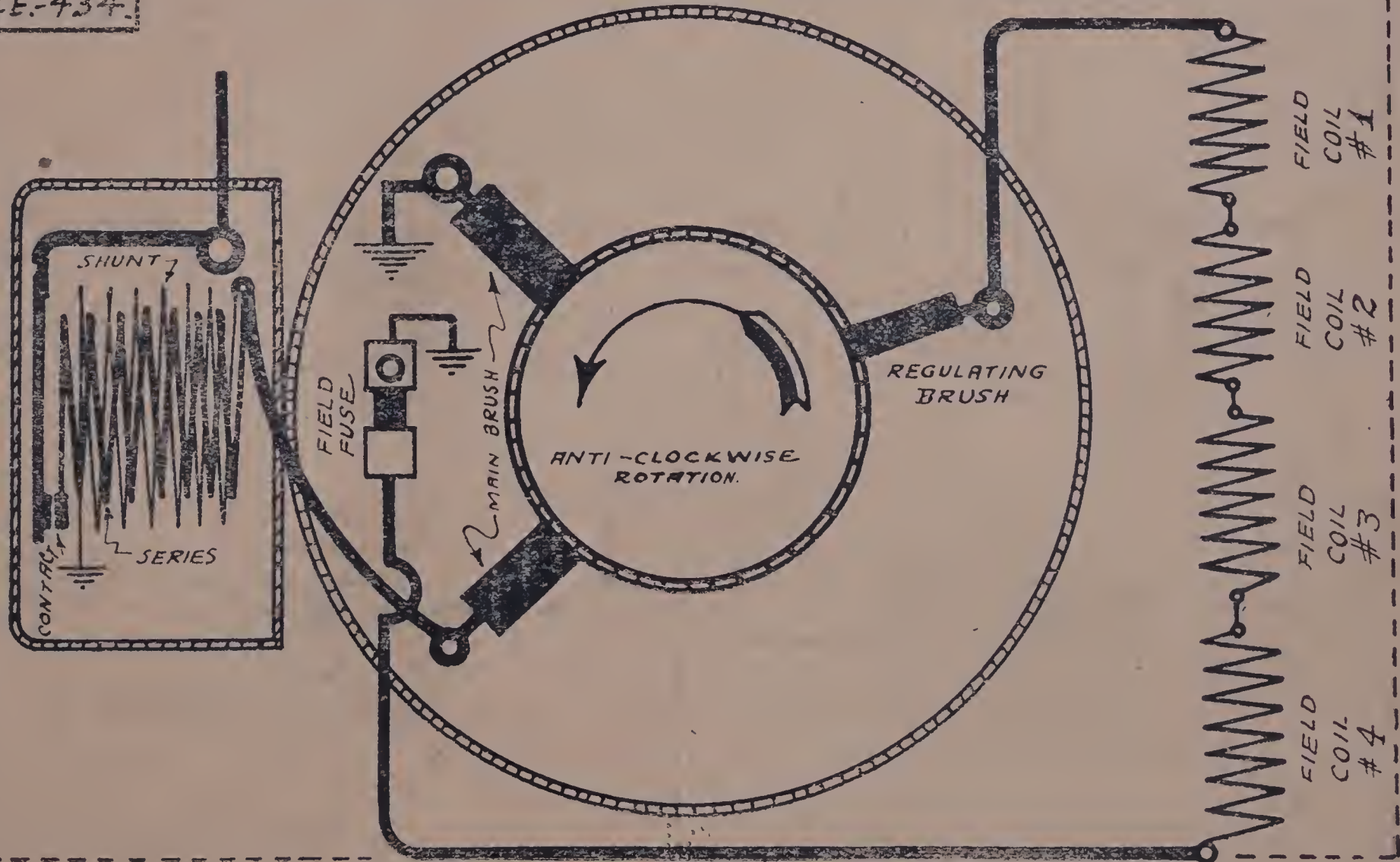


BIJUR

GENERATOR - REGULATOR

AS USED ON GRANT AND KELSEY 1921 MODELS.

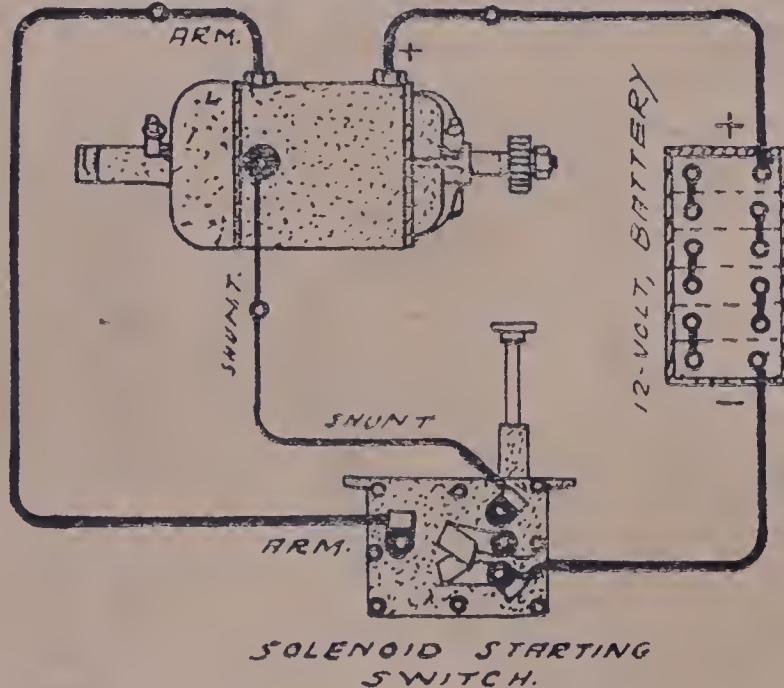
FILE: 434.



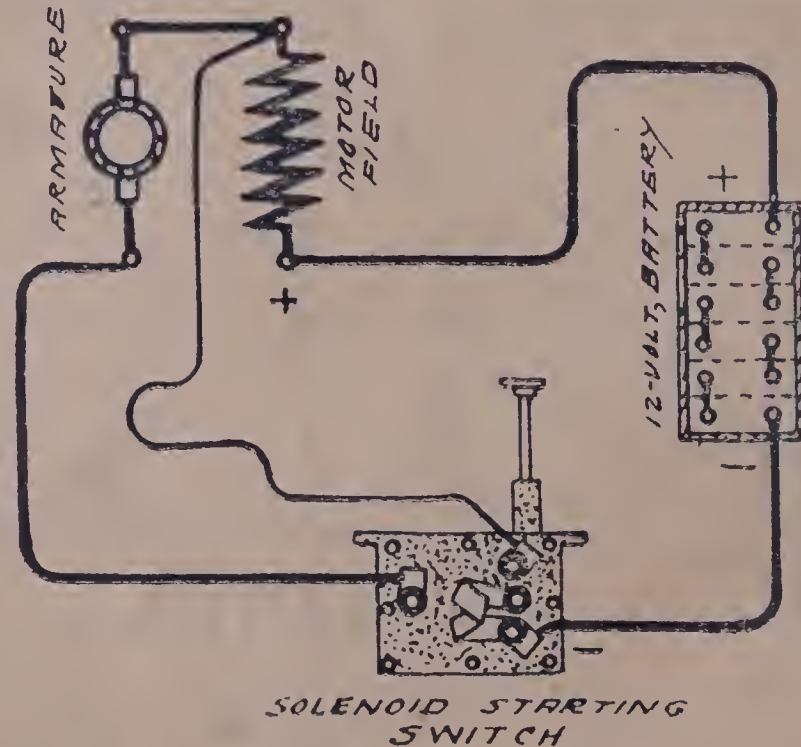
BOSCH STARTING MOTOR TYPE - A.

FILE:-400.

STARTING MOTOR
TYPE - A.
EXTERNAL VIEW.



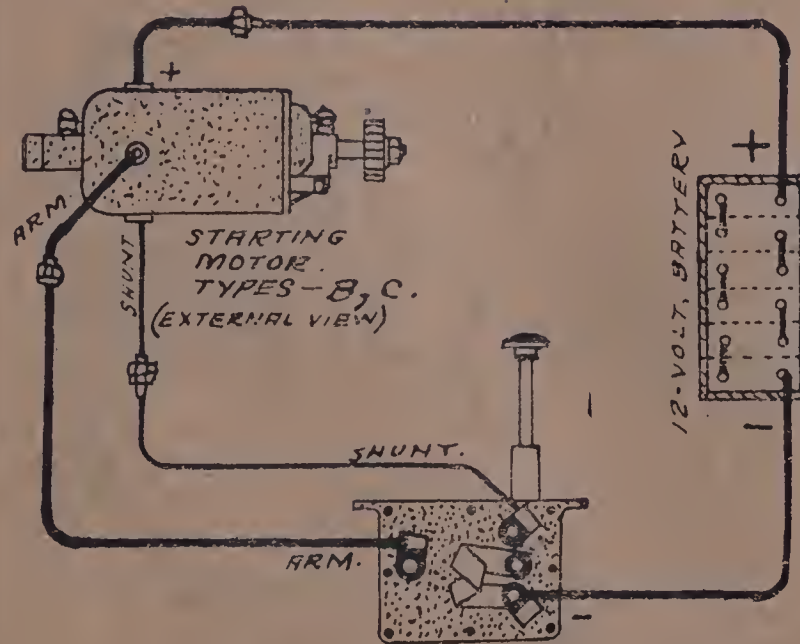
STARTING MOTOR
TYPE - A.
INTERNAL VIEW.



BOSCH

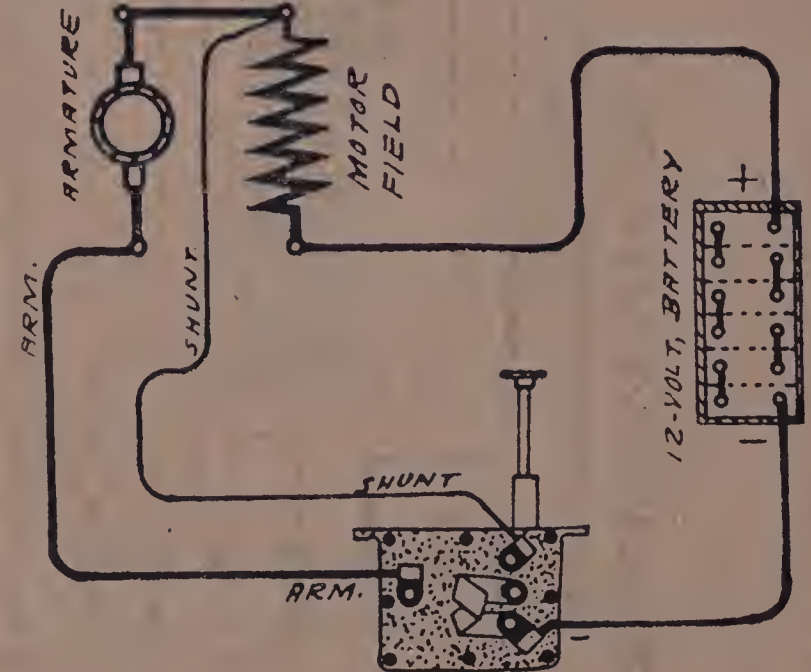
STARTING MOTOR TYPES B, AND C.

FILE: 400.



SOLENOID
STARTING SWITCH

STARTING
MOTOR
TYPES-B, C.
(INTERNAL VIEW)



SOLENOID
STARTING SWITCH.

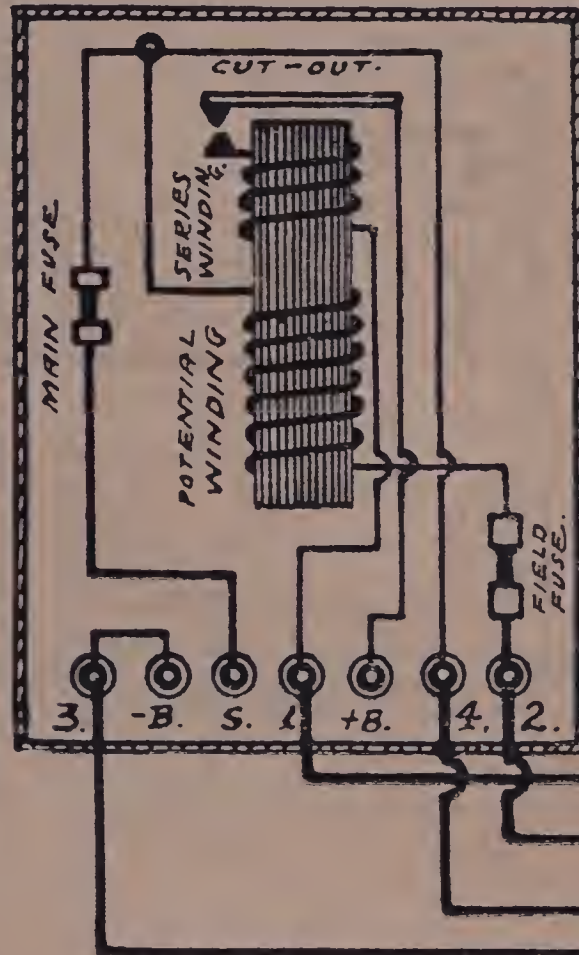
BOSCH

CONTROL BOX, -TYPE- CBG.

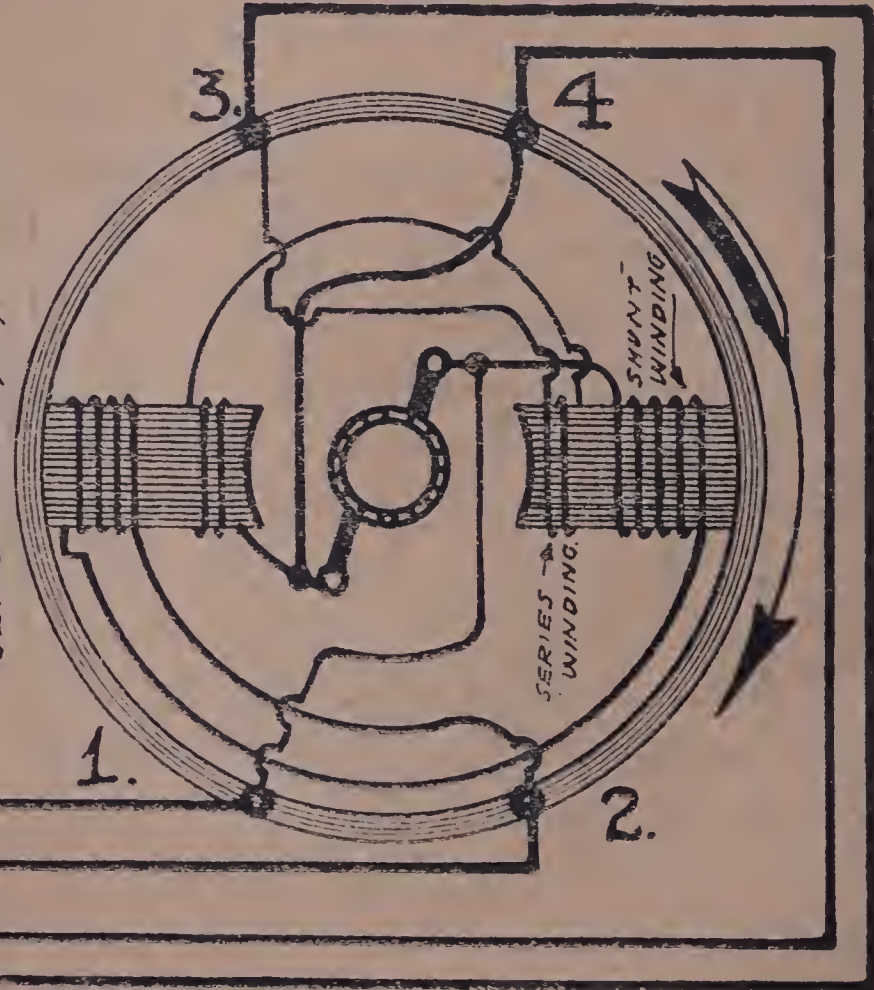
DYNAMO OR GENERATOR, TYPES-DSG-5,-6,-7,-8,-107,-108.

FILE:400.

BOSCH CONTROL BOX



GENERATOR, OR, DYNAMO.



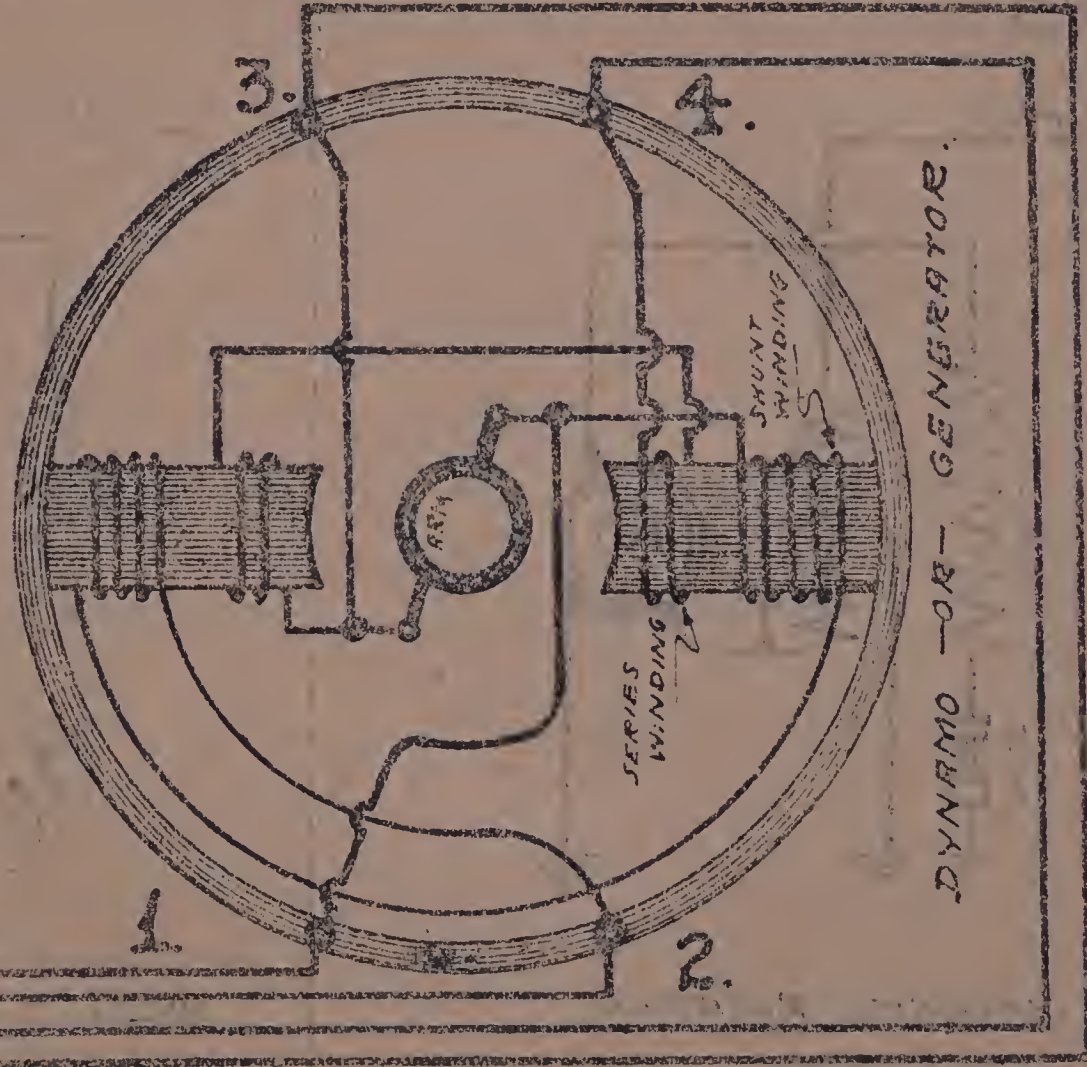
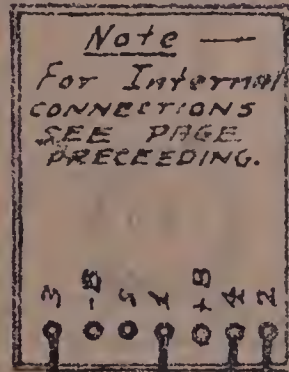
BOSCH

DYNAMO —OR— GENERATOR.

TYPE —DSG105, DGS106.

FILE: 400

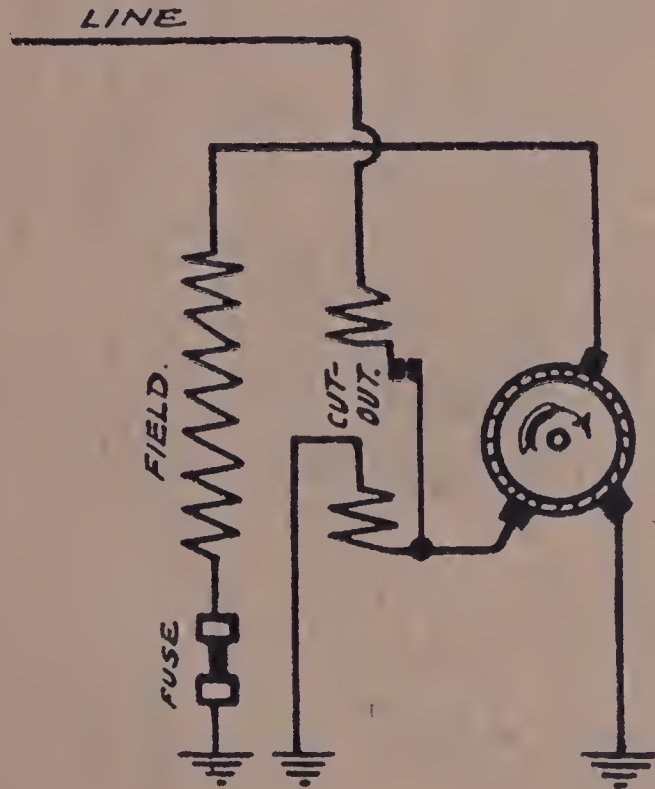
BOSCH CONTROL BOX



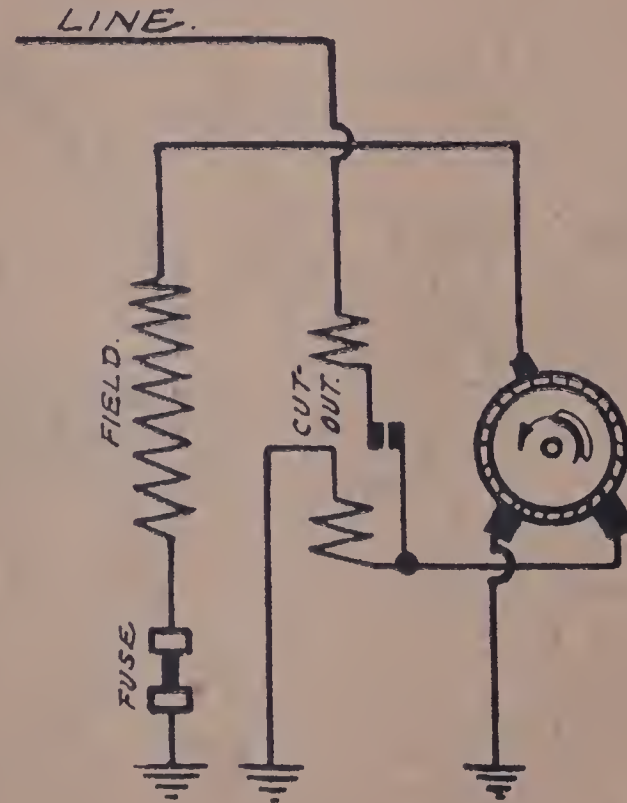
BOSCH

6 AND 12-VOLT, GENERATOR
AS USED IN 1919, 1920, 1921.

FILE: 400.



CLOCKWISE ROTATION.

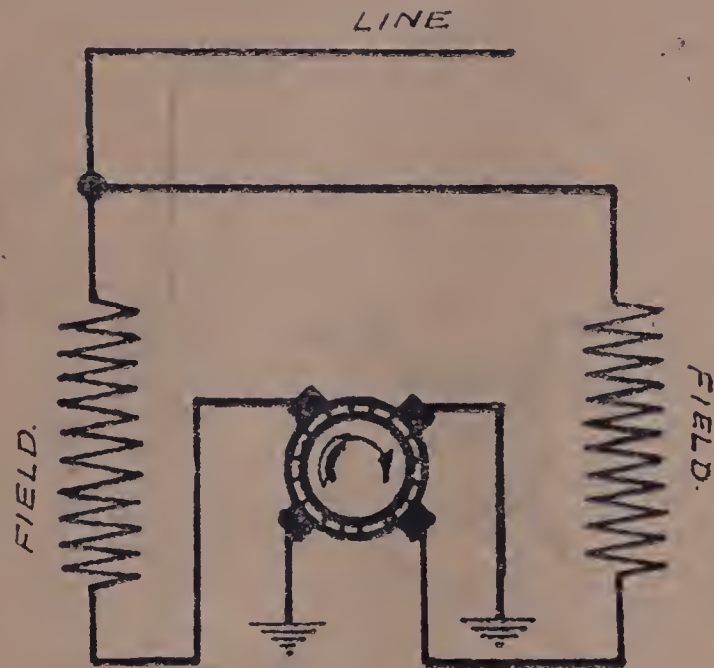


COUNTER CLOCKWISE ROTATION.

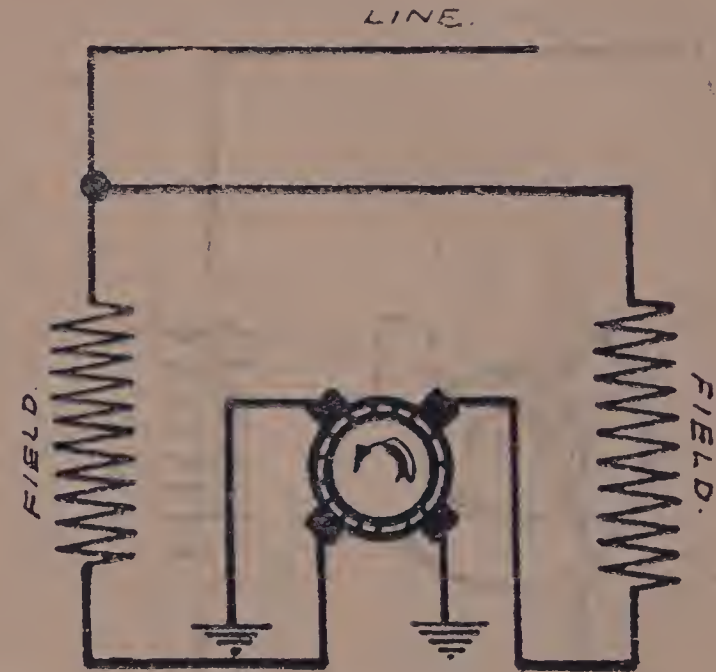
BOSCH

6-VOLT, STARTING MOTOR
AS USED IN 1919, 1920, 1921.

FILE: 400.



CLOCKWISE ROTATION.

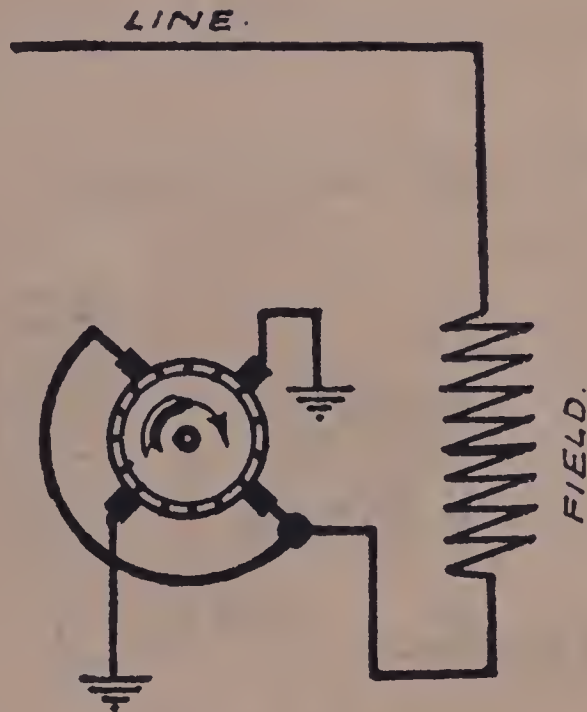


COUNTER-CLOCKWISE ROTATION.

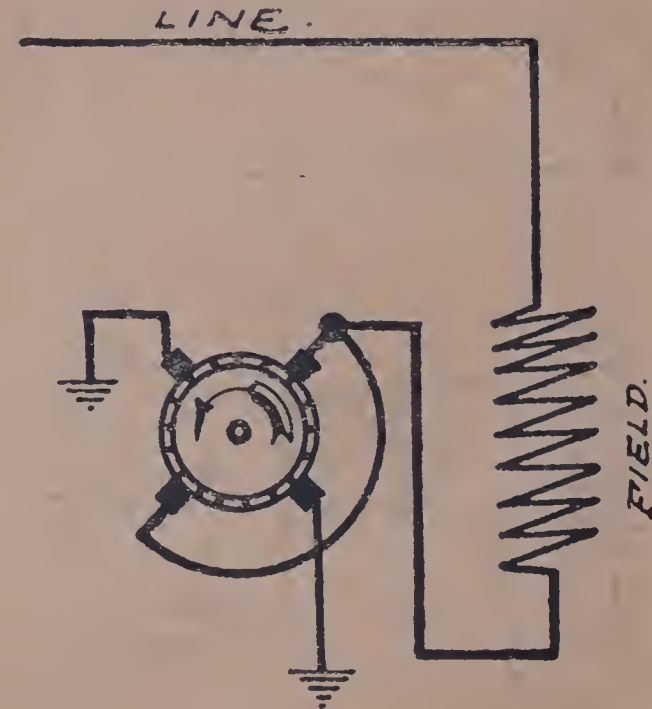
BOSCH

12-VOLT,-STARTING MOTOR.
AS USED IN 1919-1920,1921.

FILE: 400



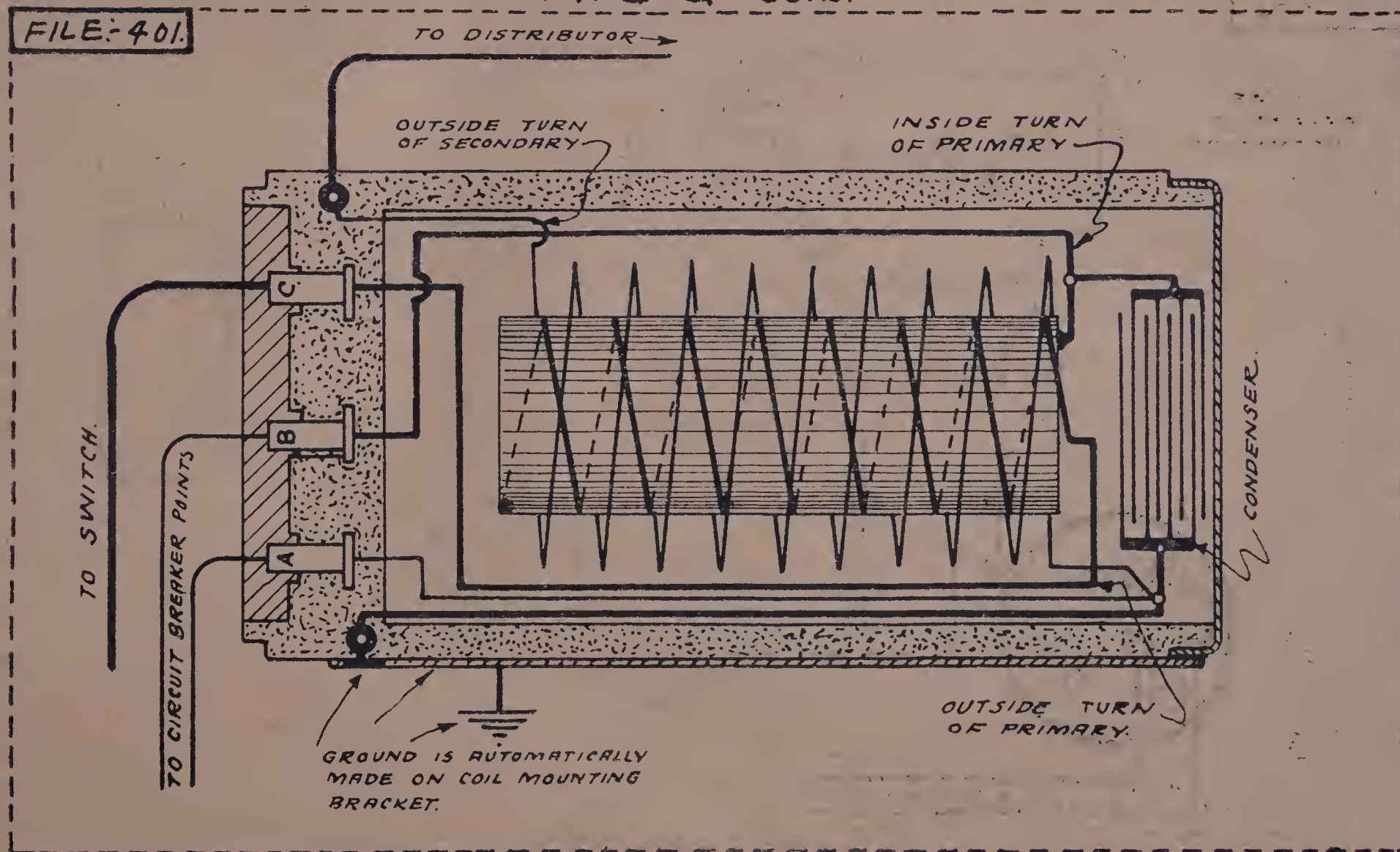
CLOCKWISE ROTATION



COUNTER CLOCKWISE ROTATION.

CONNECTICUT INTERNAL CONNECTIONS OF TYPE-G-COIL.

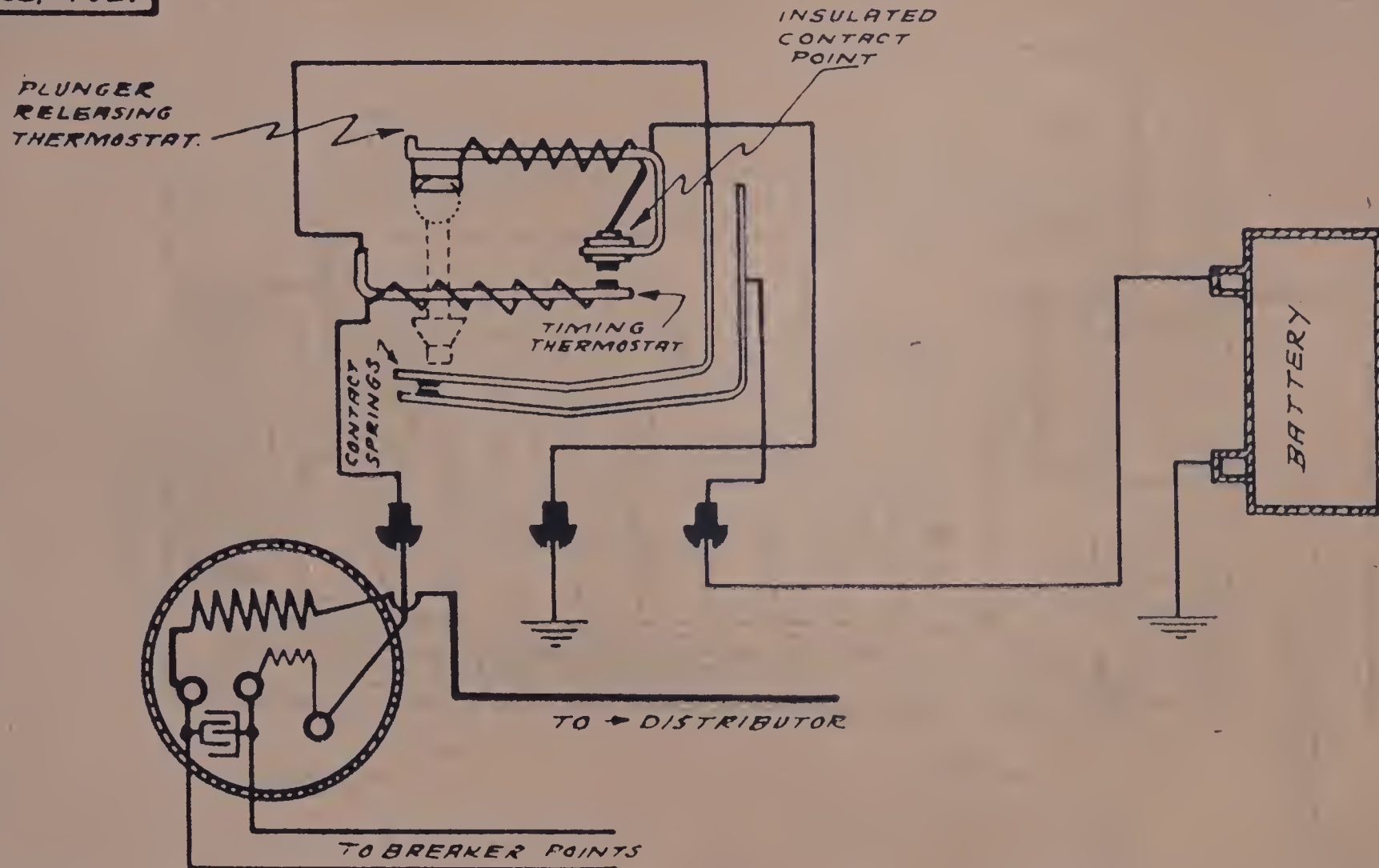
FILE: 401.



CONNECTICUT

INTERNAL CONNECTIONS OF TYPE K, AUTOMATIC IGNITION SYSTEM.

FILE:-401.



DYNETO

TYPE CA GENERATOR.

FILE:-419.



SHUNT WOUND

THIRD BRUSH REGULATION

7-VOLTS.

MAXIMUM CURRENT GENERATED BETWEEN 15 AND 20 M.P.H.

DYNETO

TYPE DA STARTING MOTOR.

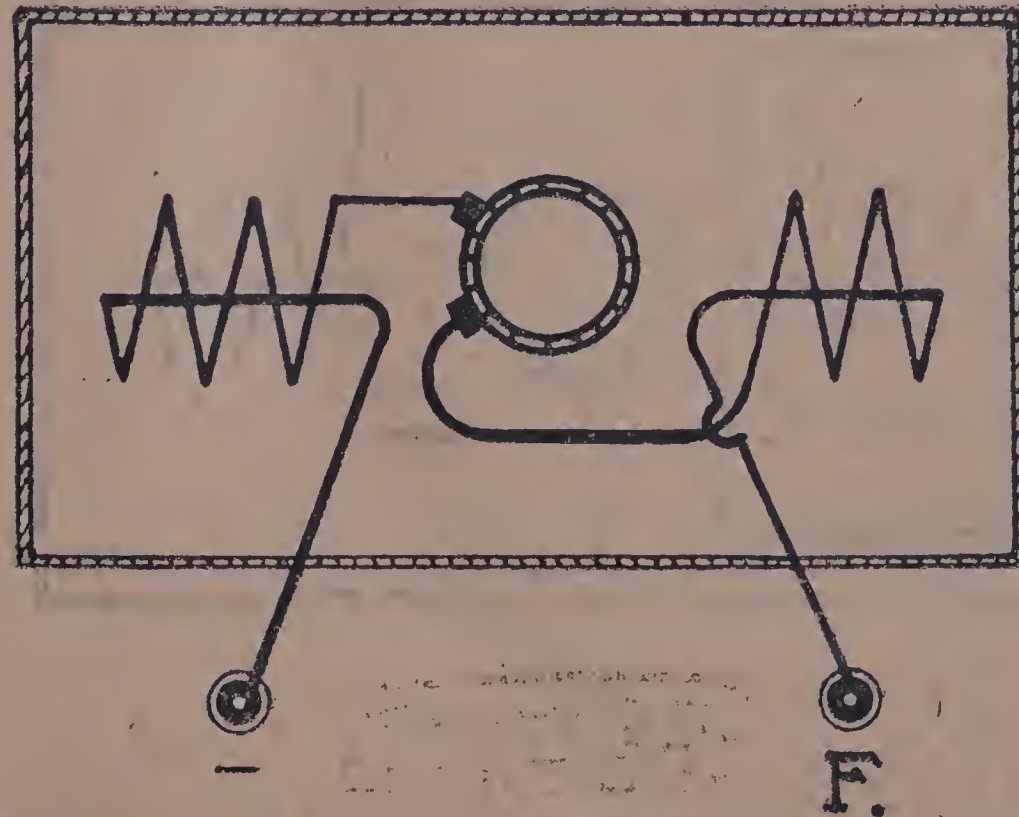
FILE: 419.



DYNETO

STARTING MOTOR TYPE-U-R.

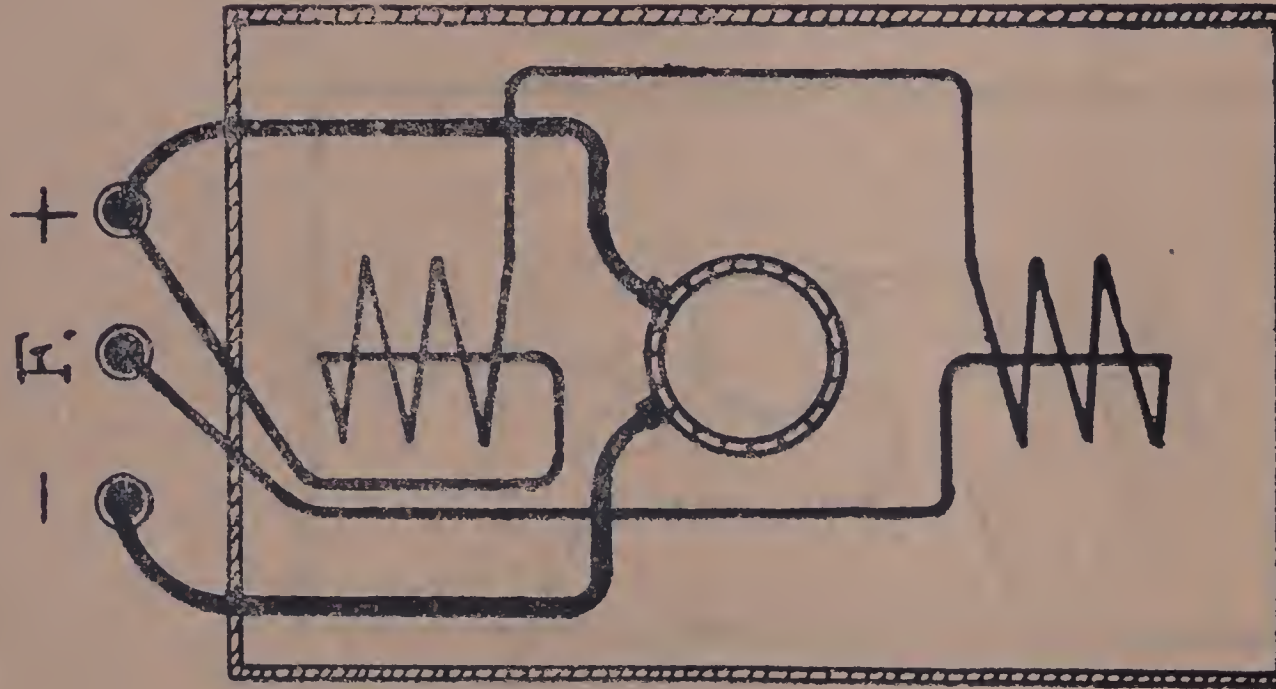
FILE-419.



DYNETO

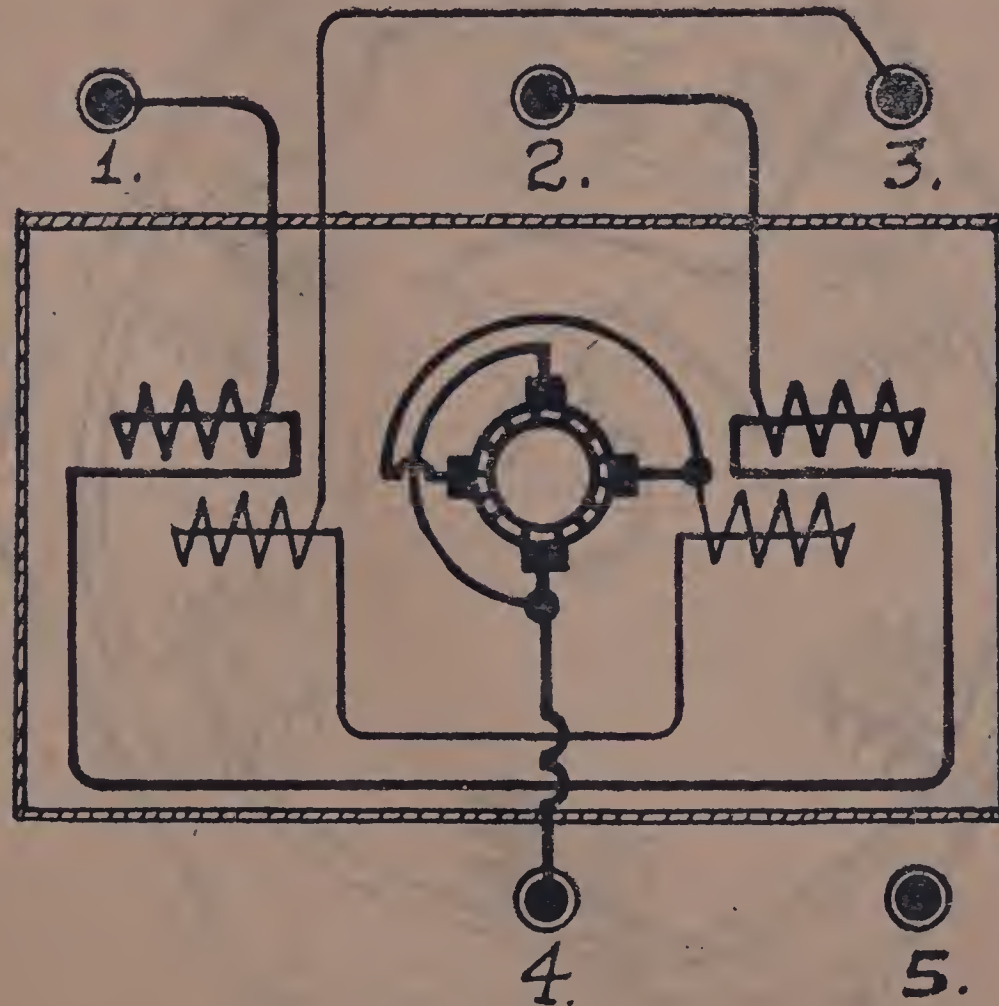
GENERATOR TYPE-VR

FILE:-419.



DYNETO-ENTZ.
MOTOR - GENERATOR.
AS USED ON 1912-1913 'FRANKLIN' CARS.

FILE: 419.



DYNETO-ENTZ.
MOTOR GENERATOR.
AS USED ON 1914 FRANKLIN CARS.

FILE: 419.

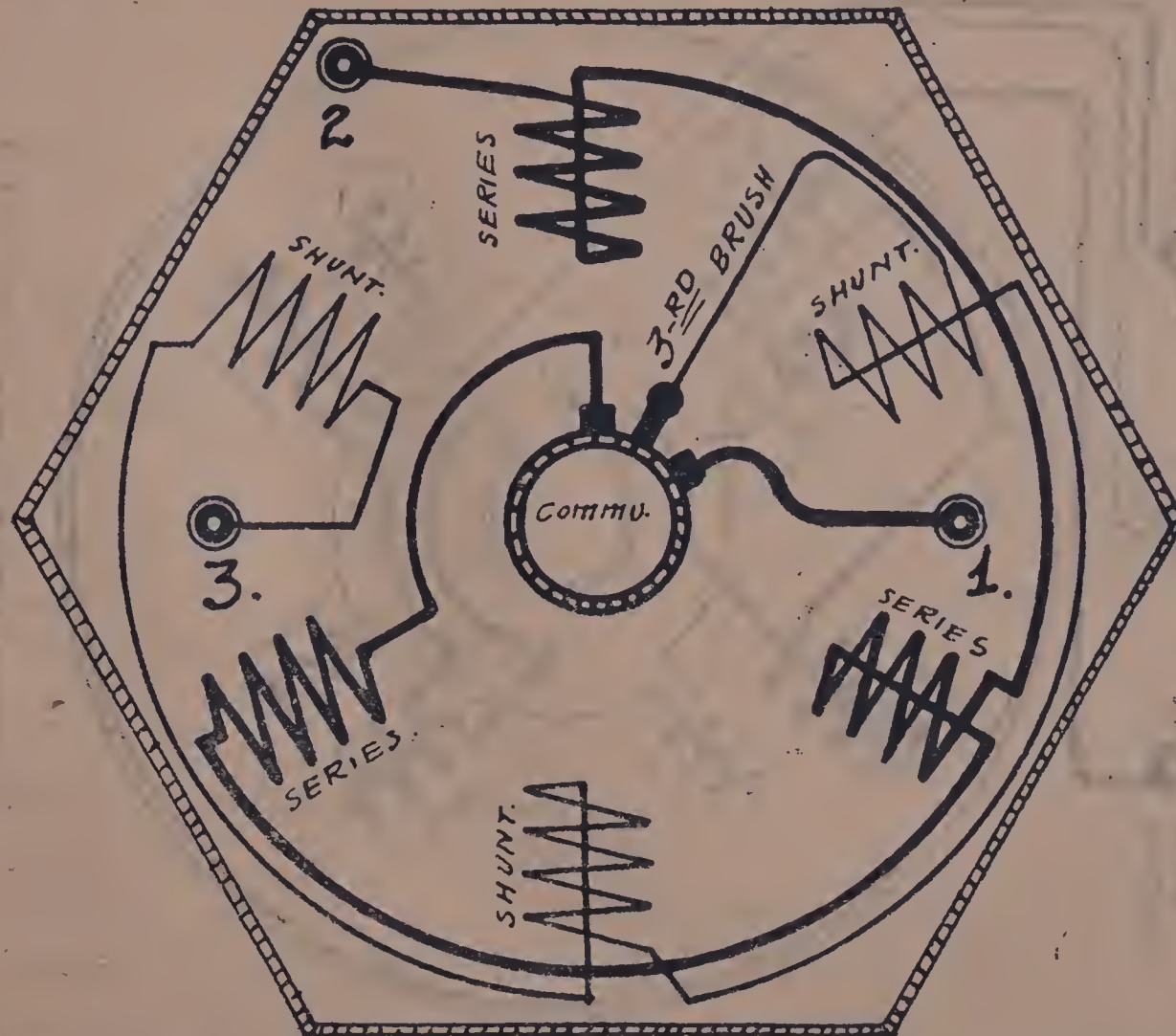


DYNETO

MOTOR-GENERATOR

AS USED ON 1915-1916 FRANKLIN CARS.

FILE: 419.

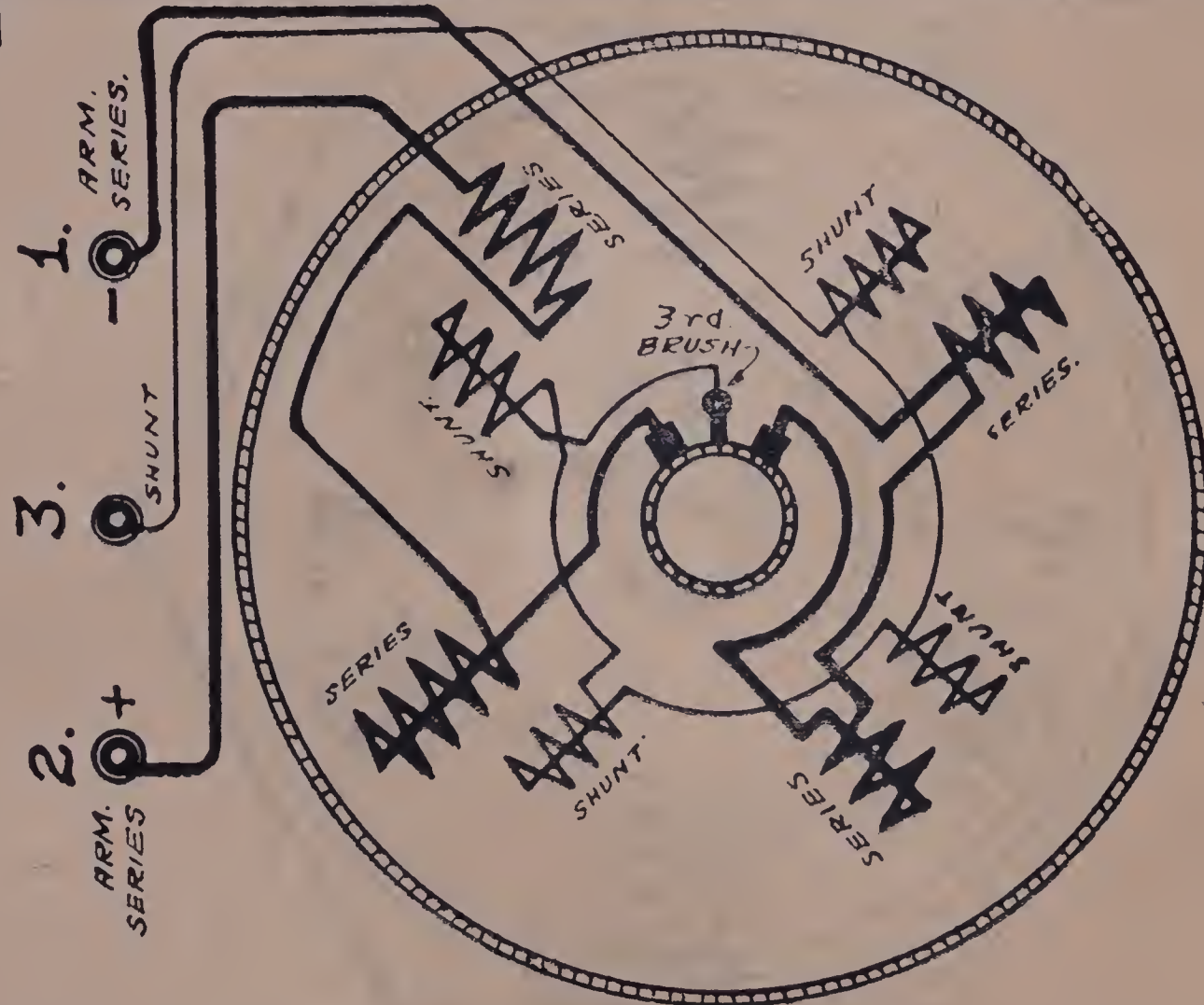


DYNETO.

MOTOR-GENERATOR

AS USED ON HOLMES 1918, 1919, 1920, 1921., FRANKLIN-1917, 18, 19, 20, 21.

FILE: 419.

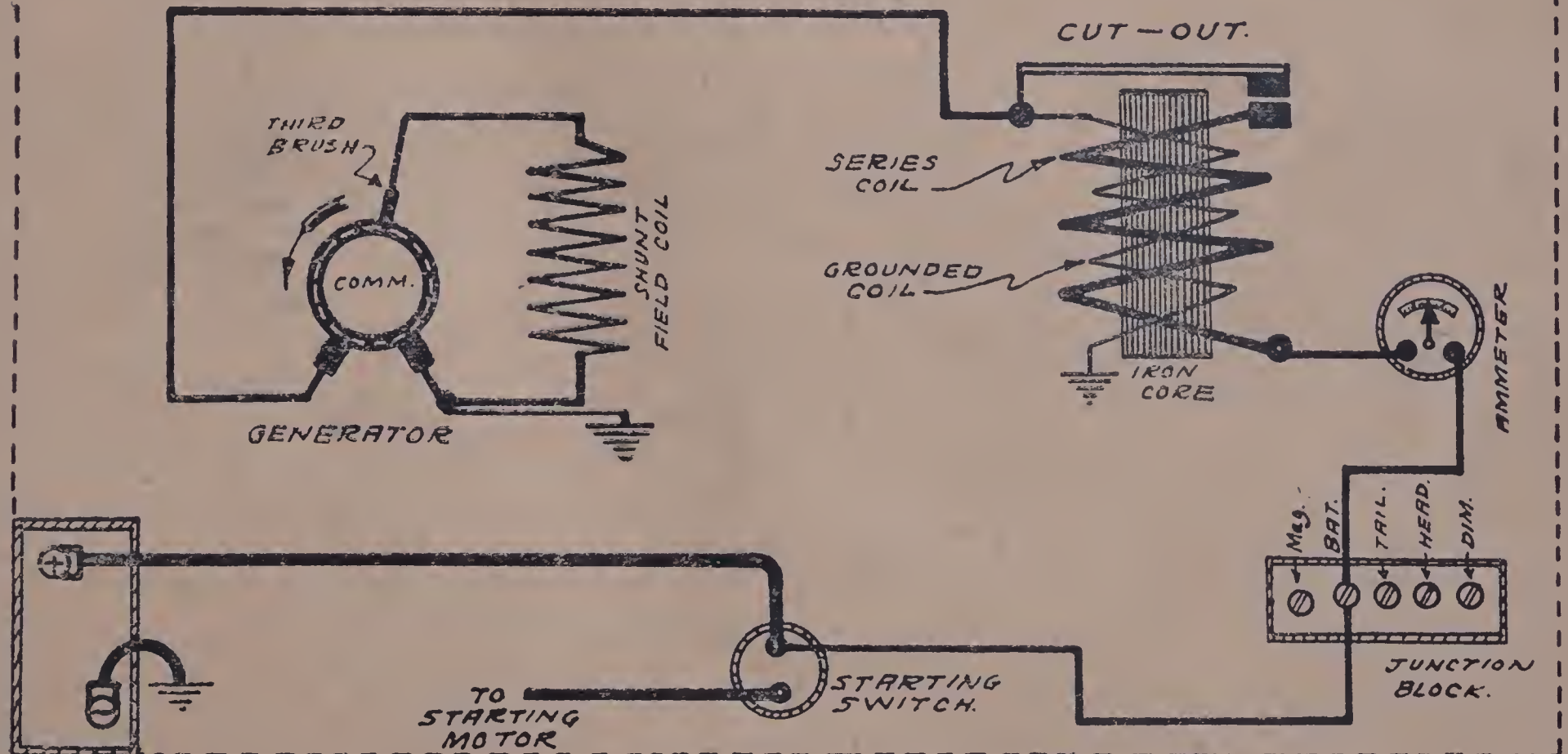


VIED FROM COMMUTATOR END.

FORD.

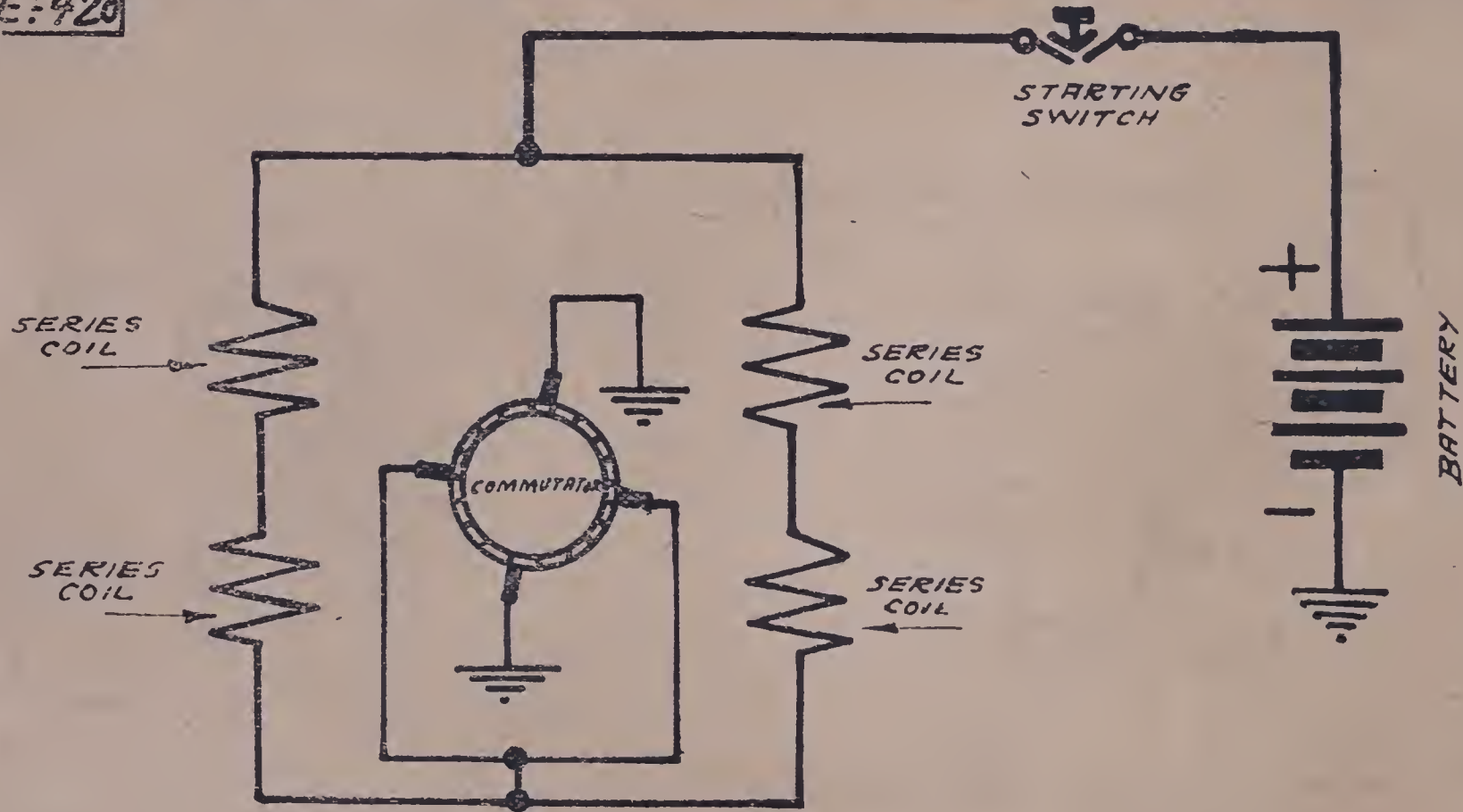
1919-1920, 1921. INTERNAL WIRING.
GENERATOR AND CUT-OUT.

FILE:420.



FORD
1919-1920, 1921. INTERNAL WIRING
STARTING MOTOR.

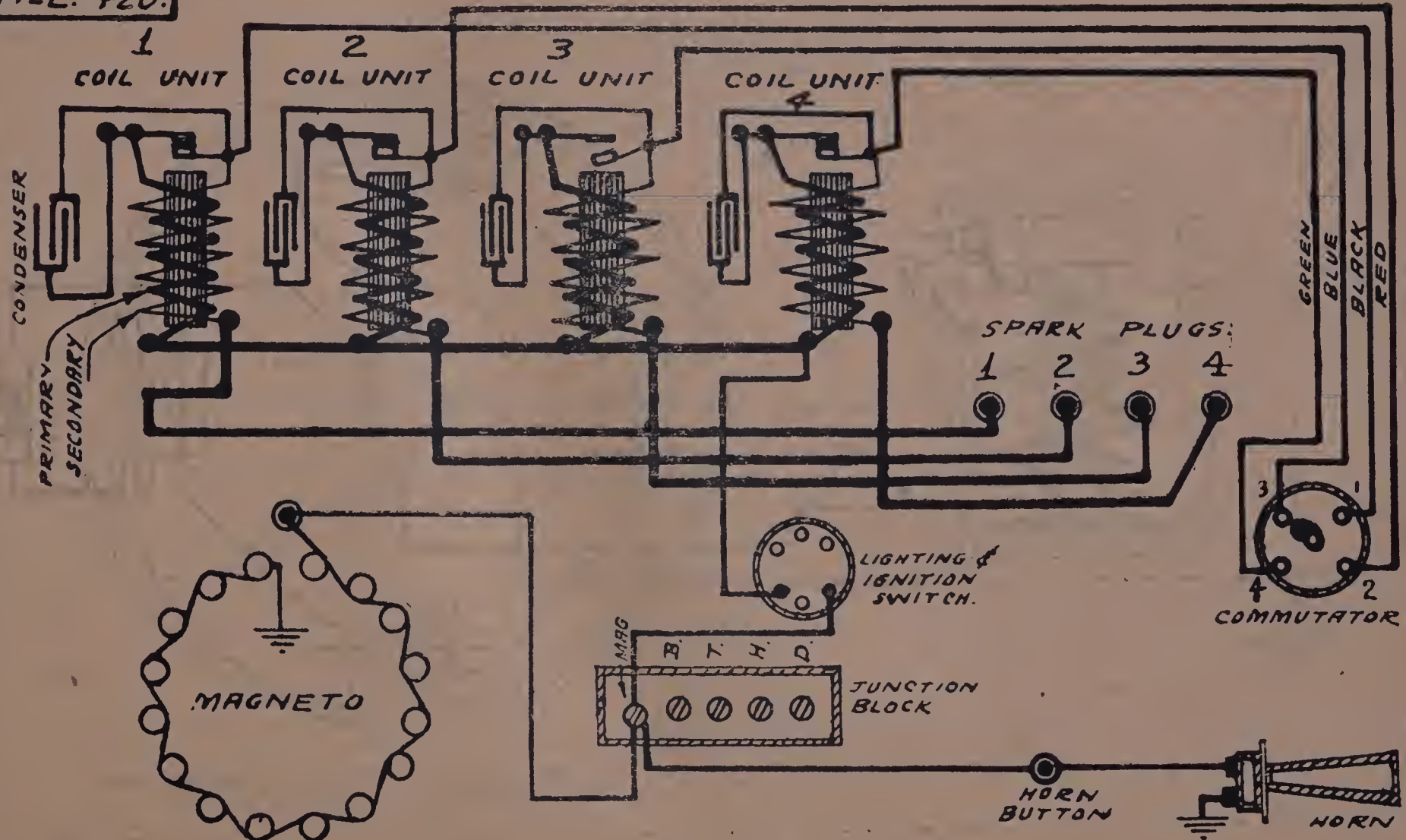
FILE: 420



FORD

1919-1920, 1921 INTERNAL WIRING.
IGNITION CIRCUITS.

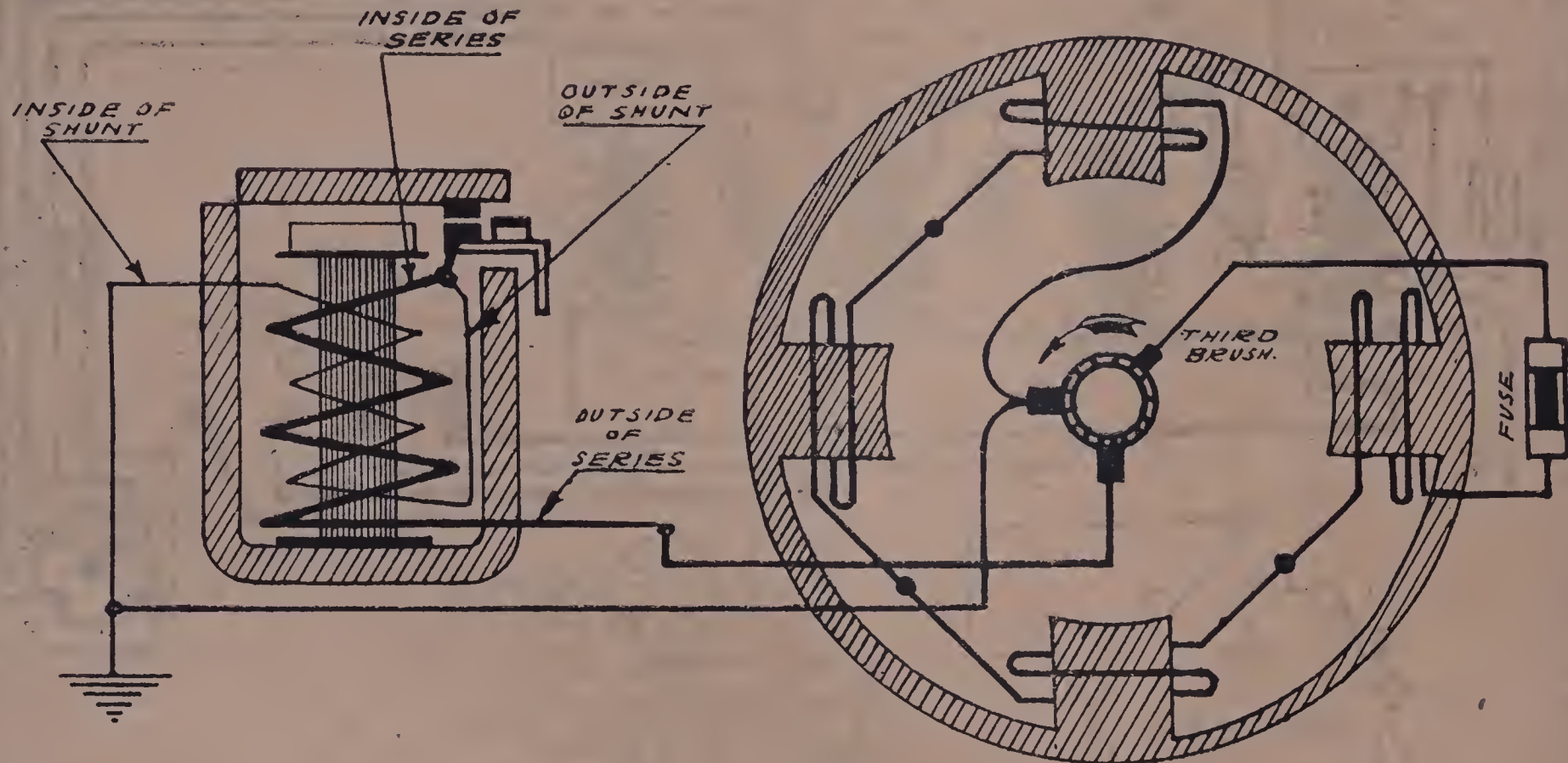
FILE: 420.



GRAY & DAVIS

INTERNAL WIRING OF 3rd. BRUSH GENERATOR AND CUT-OUT.

FILE: 421.



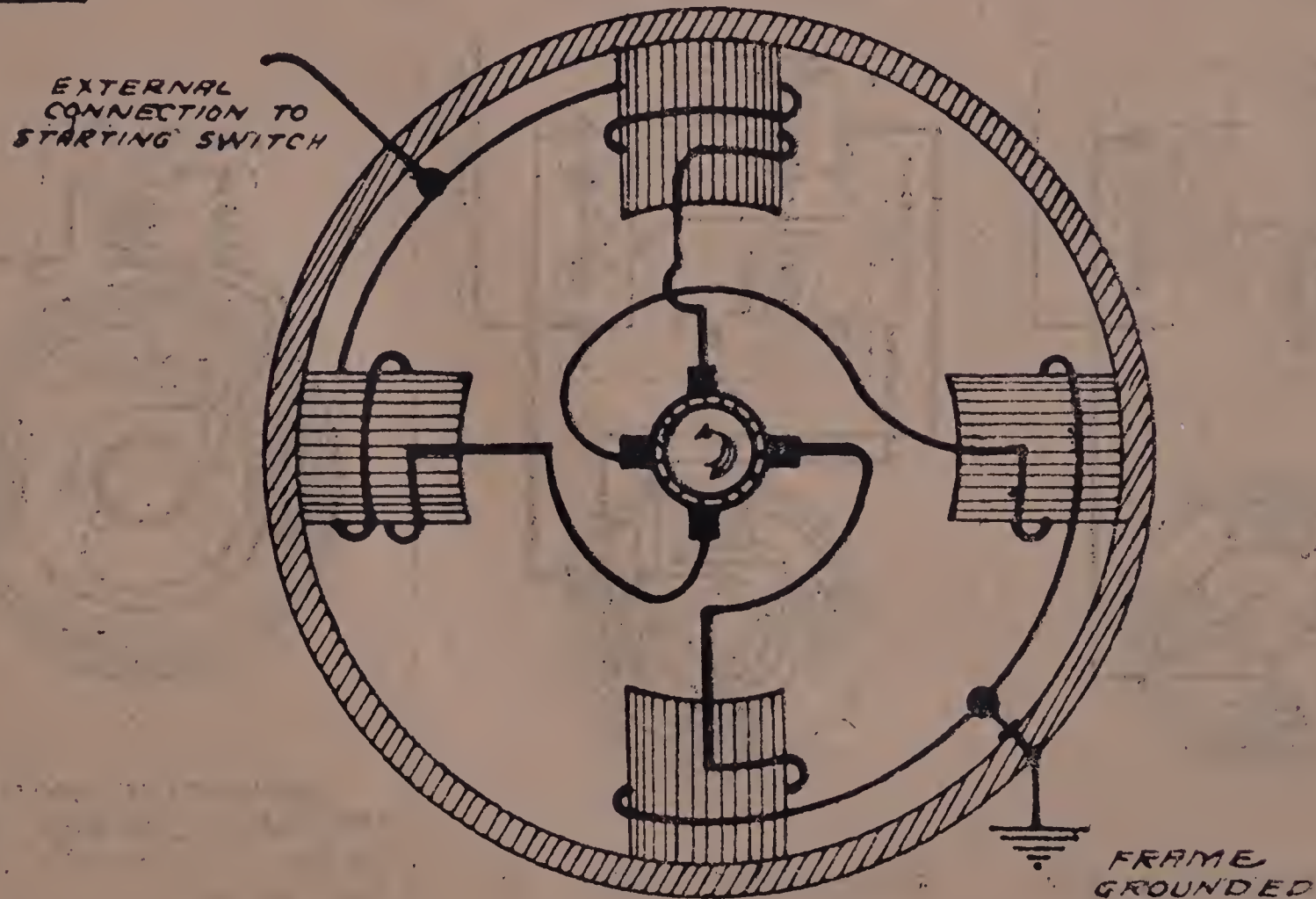
Note:-

THE POSITIVE BRUSH IS PERMENTLY
GROUNDED TO THE FRAME.

GRAY & DAVIS

INTERNAL WIRING OF STARTING MOTOR WITH BENDIX GEAR.

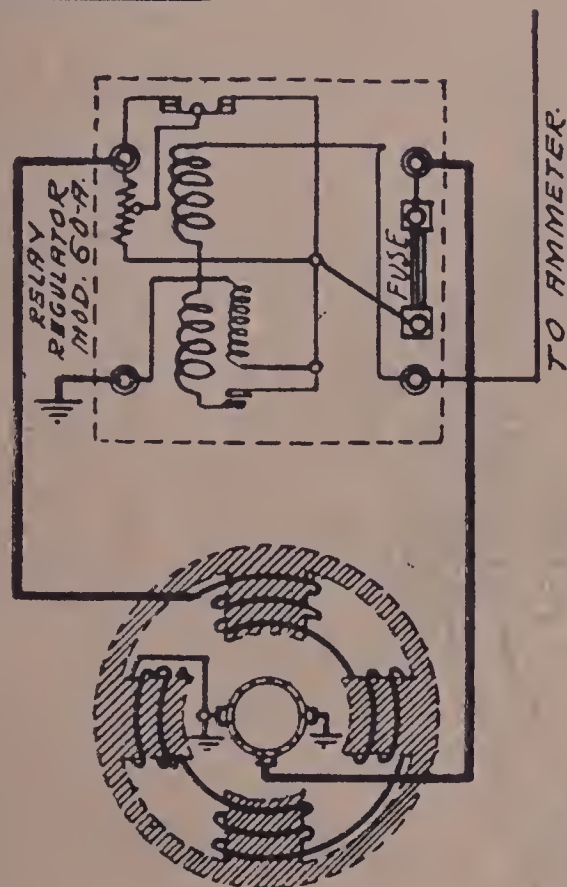
FILE:-421.



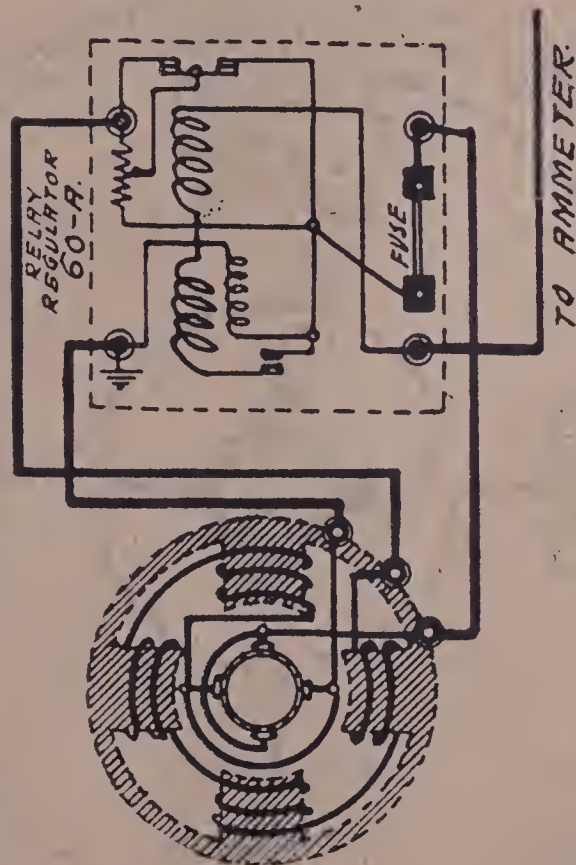
REMY

INTERNAL CIRCUITS GENERATORS-AND-RELAYS.

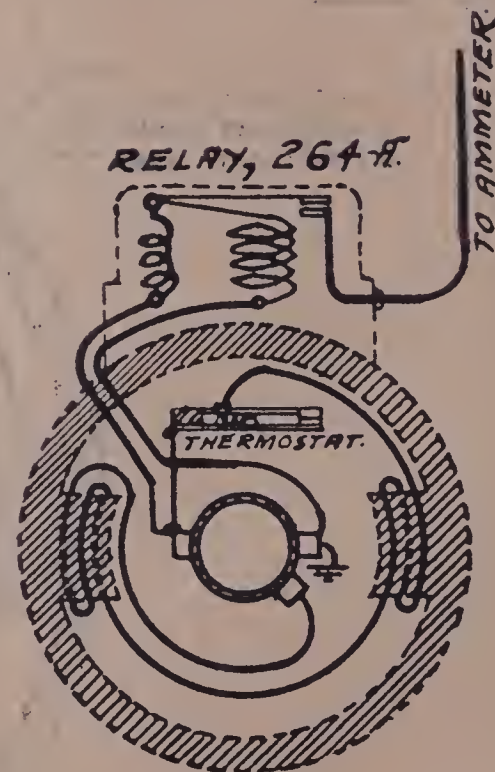
FILE: 267.



GENERATOR - MODELS-16-A,
18-A-B-C-D, 161-ABC, 166-ABC.
168-A, 243-A, 245-A-B-C, 249-B-C-D.



GENERATOR-MODEL-16-C.



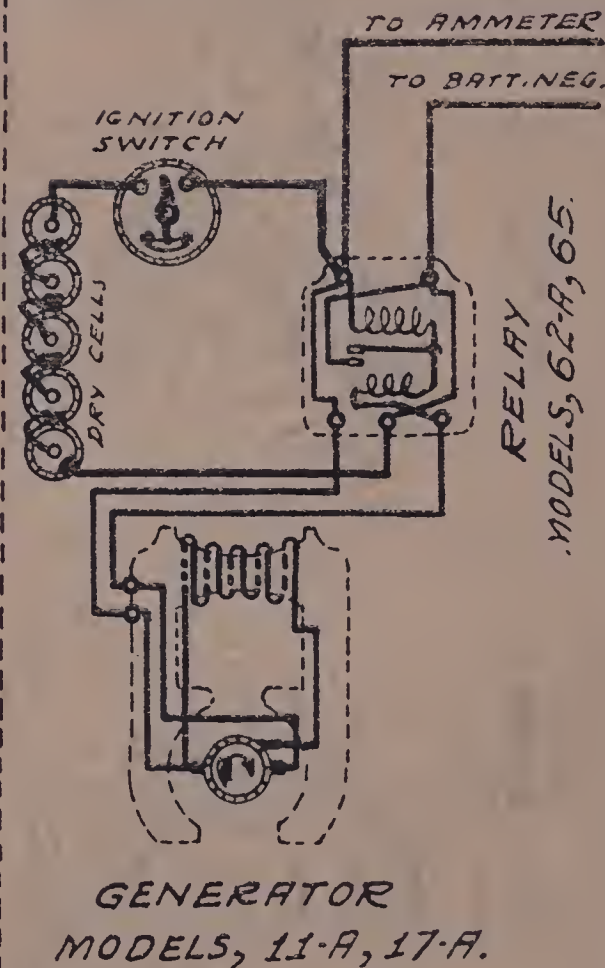
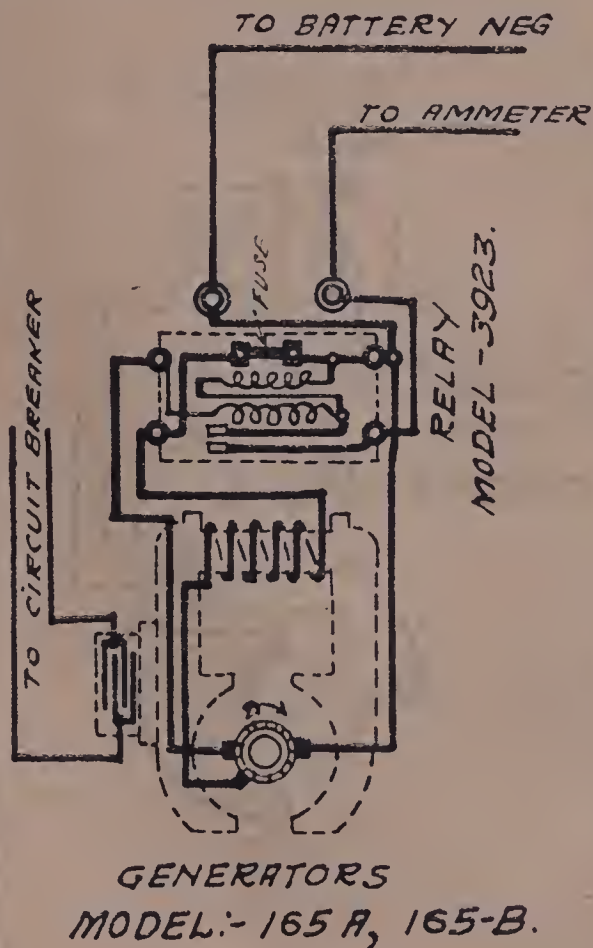
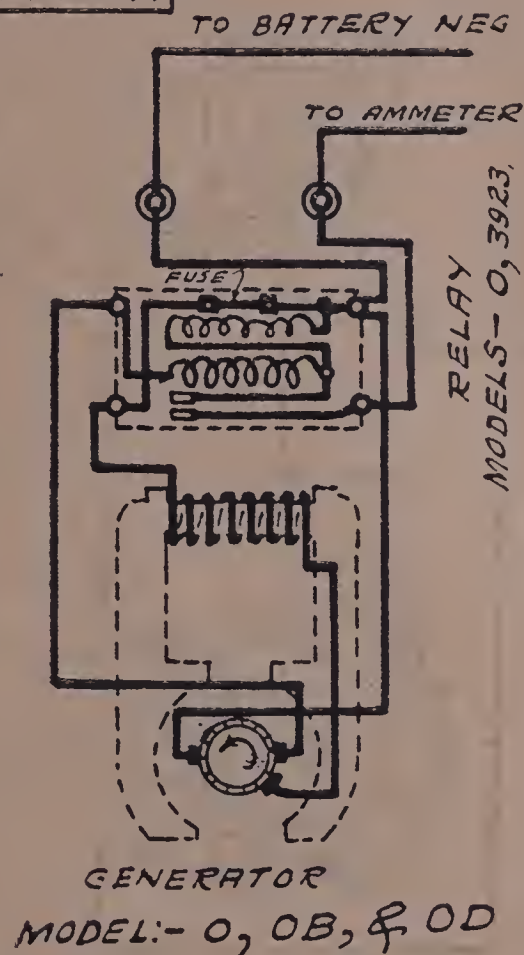
GENERATOR MODELS
230-A-B, 231-AB, 232-A,
233-A, 234-A, 237-A,
245-B-C-G

REMY

INTERNAL CIRCUITS.

GENERATORS AND RELAYS

FILE: 267.



REMY

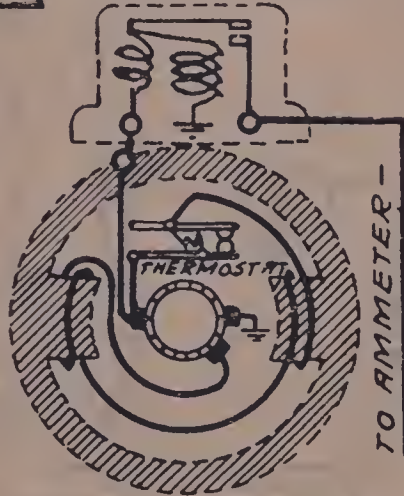
INTERNAL CIRCUITS.

GENERATORS AND RELAYS.

FILE:- 267.

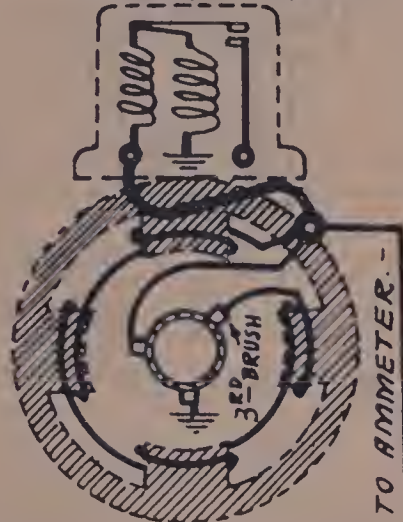
RELAY - 263-B.

GENERATOR
MODELS:- 248-D, 257-A.

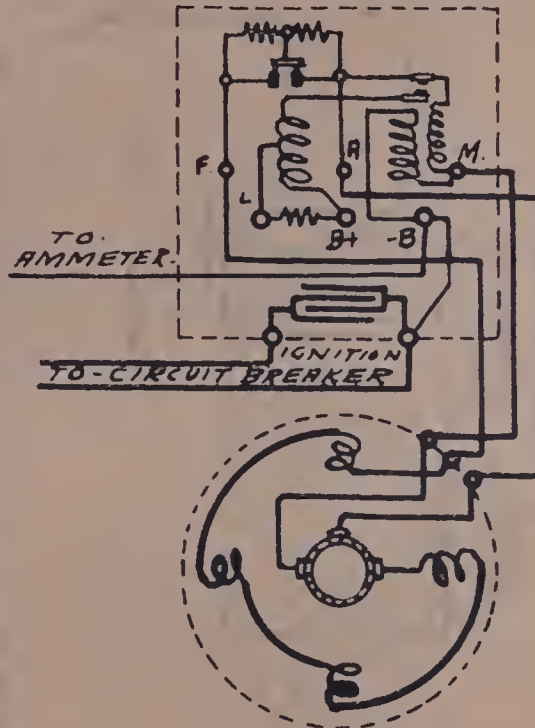


RELAY 263-E.

GENERATOR.
MODEL:- 238-A.



MODEL 261-AB
RELAY-REGULATOR.



RELAY
263-A.

TO
AMMETER

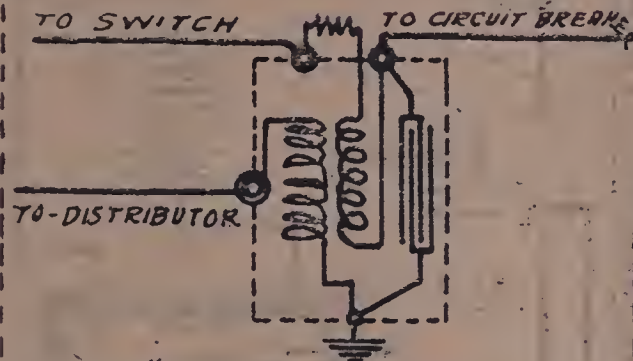


GENERATOR MODELS, 240-A, 241-A.

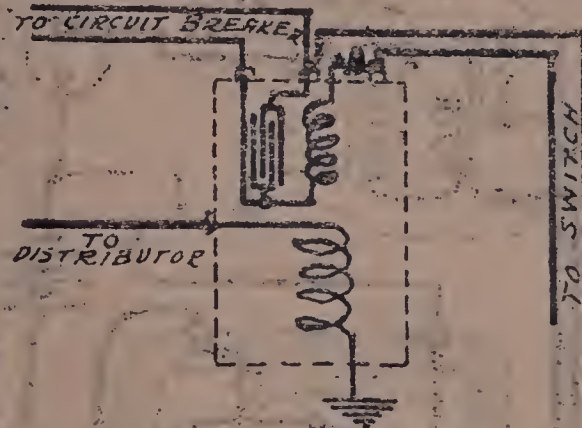
GENERATOR MODEL, 256-A.

REMY INTERNAL CIRCUITS OF IGNITION COILS.

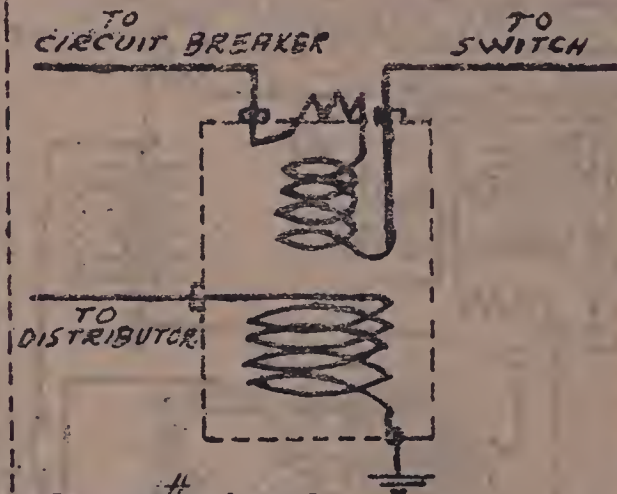
FILE:267.



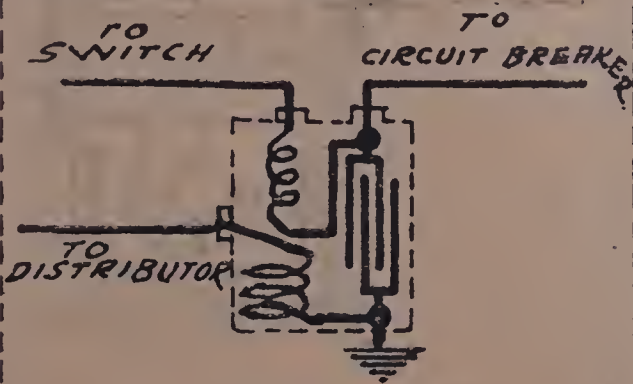
COILS #170-A, 171-A, 173-A, 282-BC,
284-G, -B, -D, 287-A, 216.



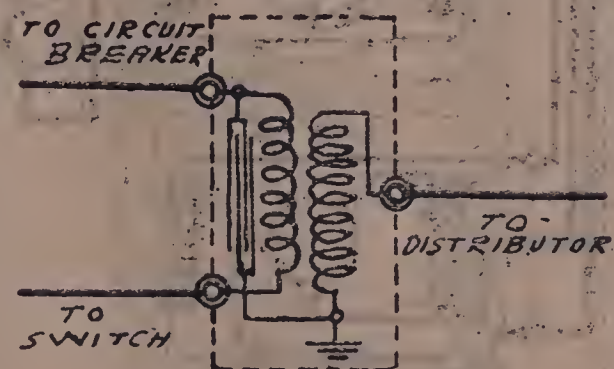
COILS #172-A, 175, 176, 285-B.



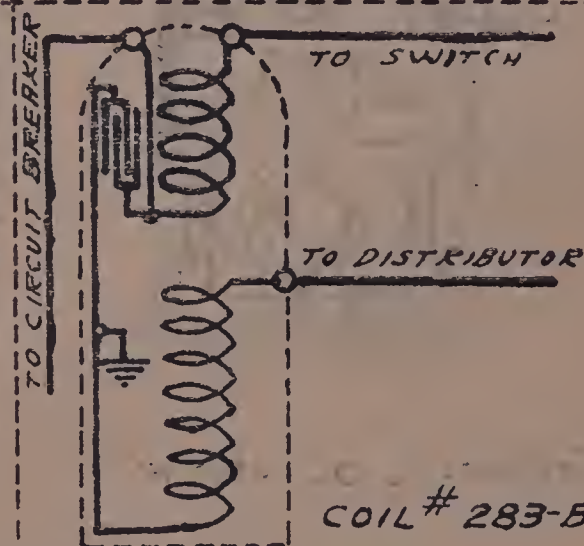
COILS # 179-A
179-B



COILS # 287-B.



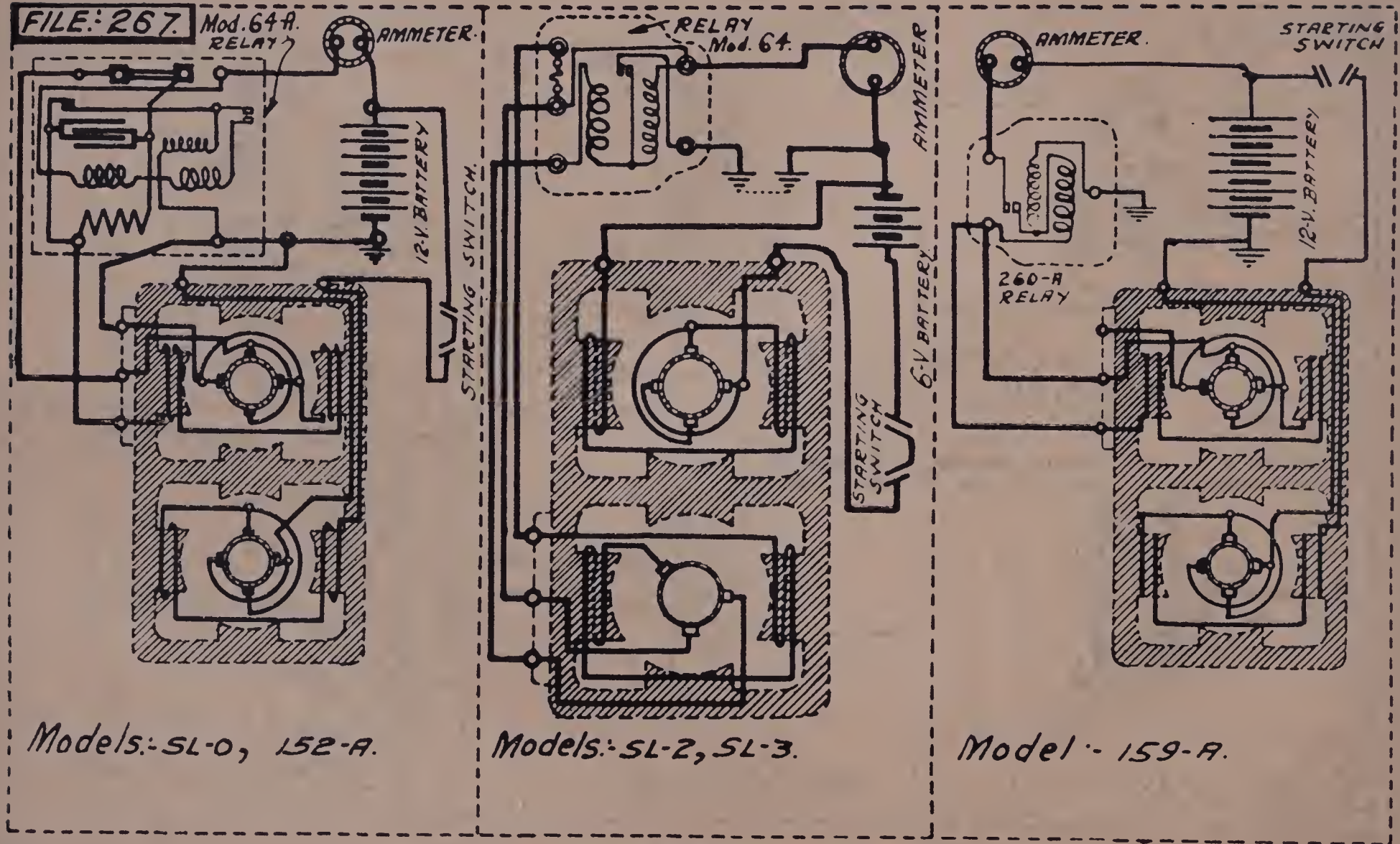
COIL # 289-A.



COIL # 283-B

REMY

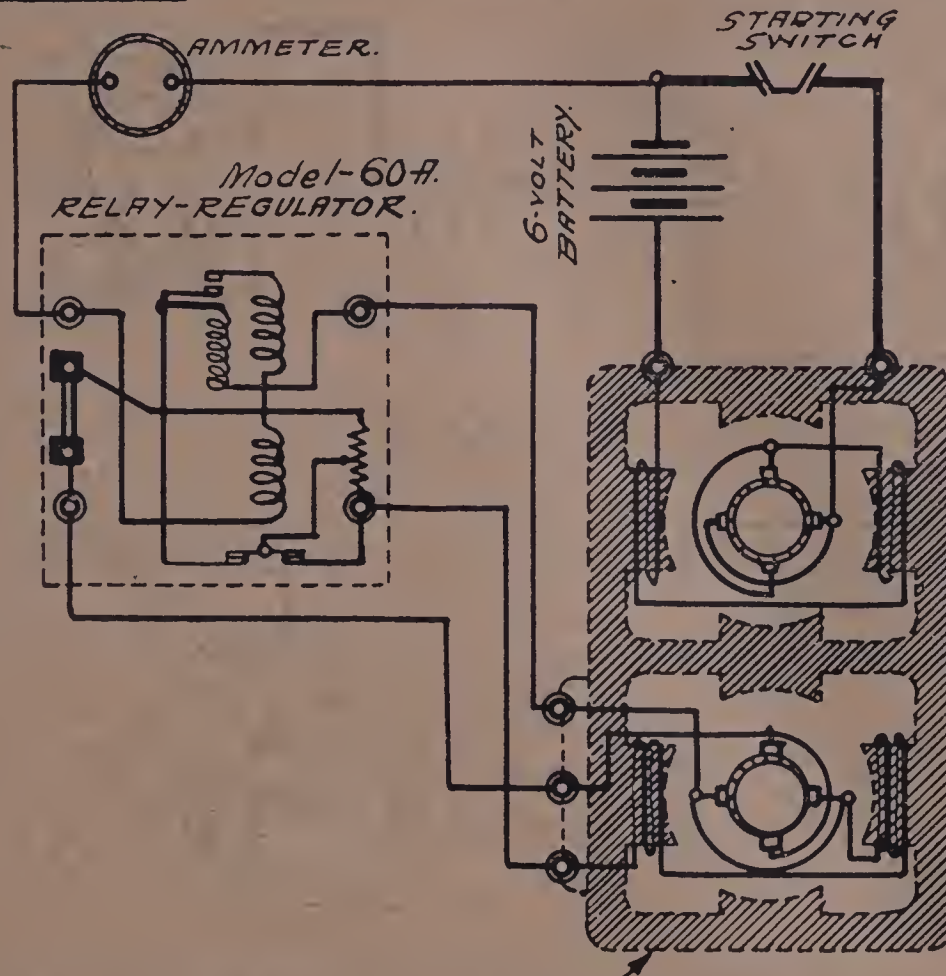
INTERNAL CIRCUITS OF MOTOR-GENERATORS & RELAY.



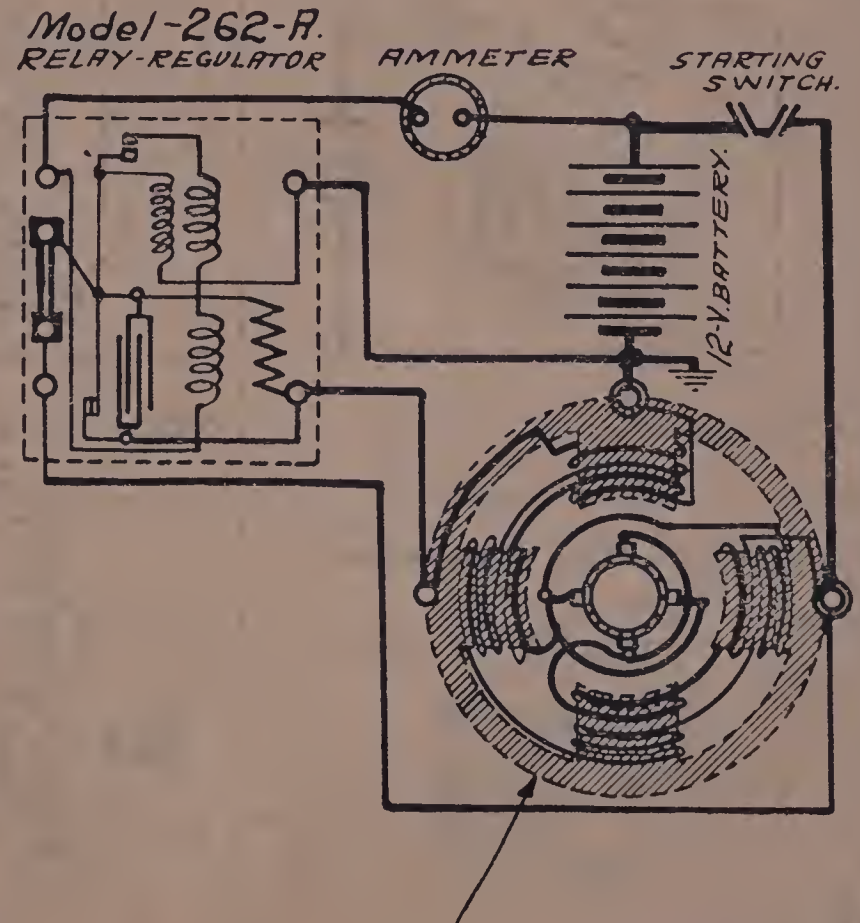
REMY

INTERNAL CIRCUITS OF MOTOR-GENERATORS & RELAY.

FILE: 267.



MOTOR-GENERATOR MODEL 150-A

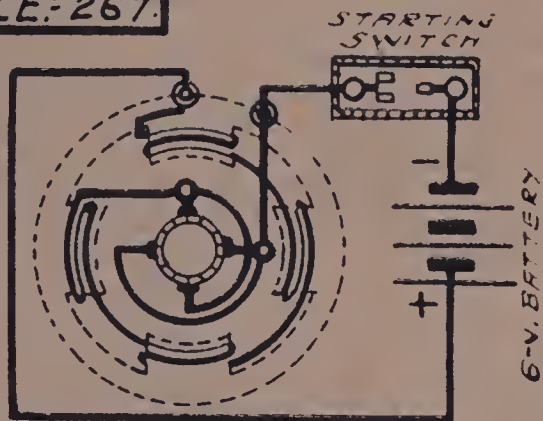


MOTOR-GENERATOR MODEL 129-A.

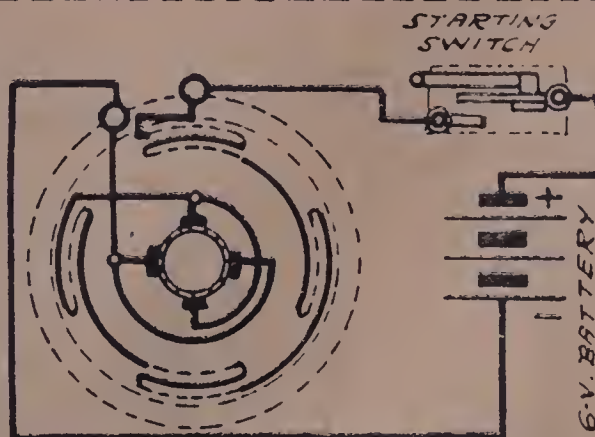
REMY

INTERNAL CIRCUITS OF STARTING MOTORS.

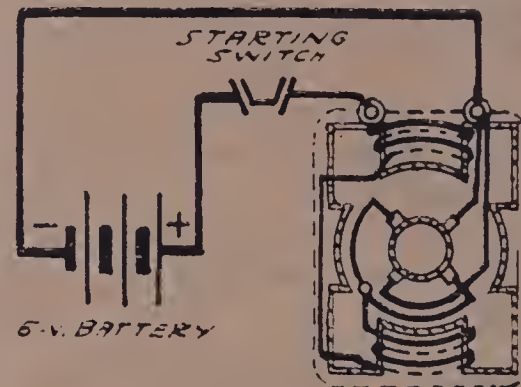
FILE: 267.



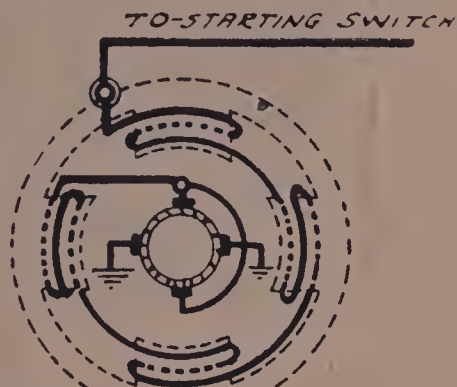
MODEL-4-A.



MODELS-5-A, 5-B, 189-A, 291-A.
6-A

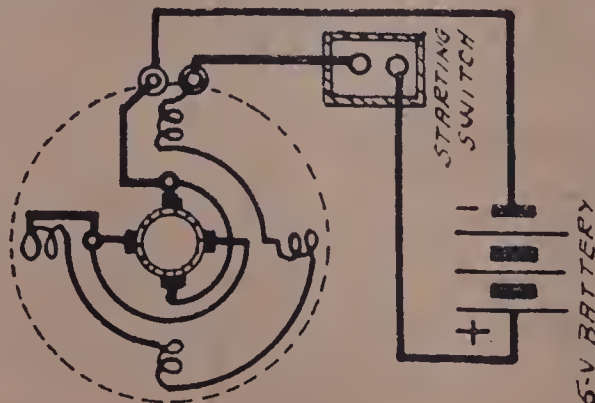


MODELS-9-A.

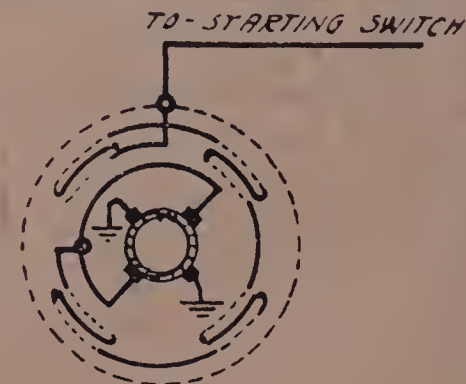


Models—

93-A, 114-A, 117-A, 118-A, 180-A,
180-B, 180-C, 182-A, 184-A, 186-A.



MODELS:- 185-A, 188-A.



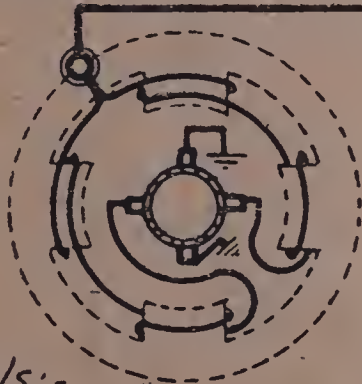
MODELS:- 230-C, 303-C.

REMY

INTERNAL CIRCUITS OF STARTING MOTORS.

FILE: 267

TO STARTING SWITCH



Models:-

290-B, 293-B, 294-C, 298-A,
303-A, 304-A, 305-A

TO STARTING SWITCH



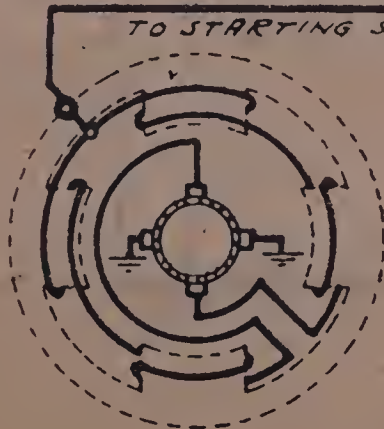
MODELS:- 292-A.

TO STARTING SWITCH



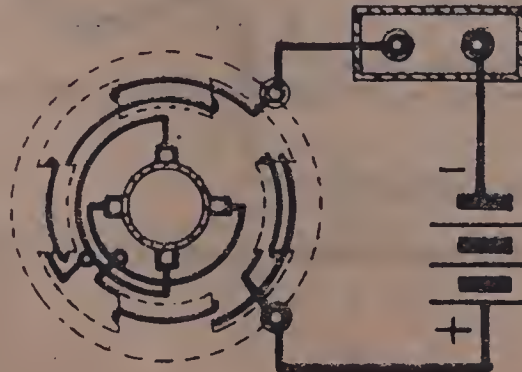
MODELS:- 294-B.

TO STARTING SWITCH



MODELS:- 294-D.

STARTING
SWITCH



6 V BATTERY

MODELS:- 300-A.

TO STARTING SWITCH

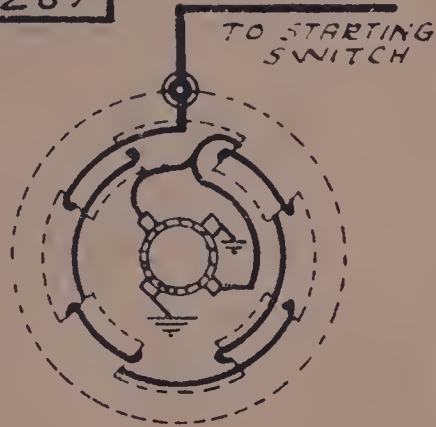


MODELS:- 305-C.

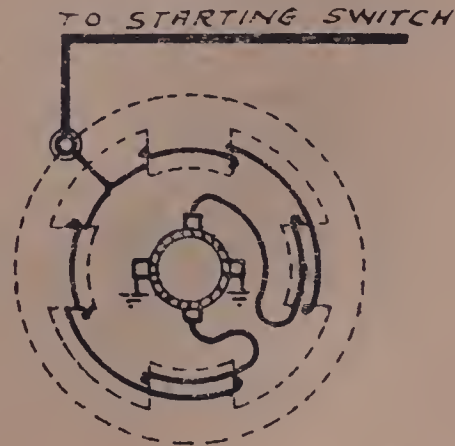
REMY

INTERNAL CIRCUITS OF STARTING MOTORS

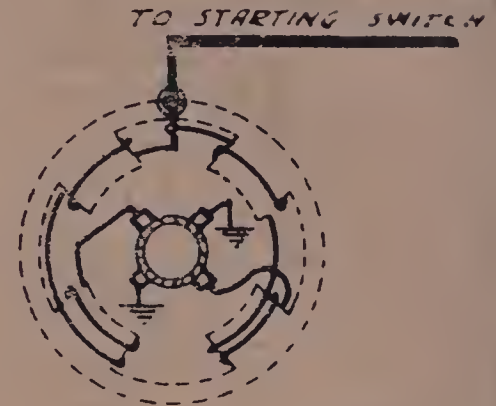
FILE: 267



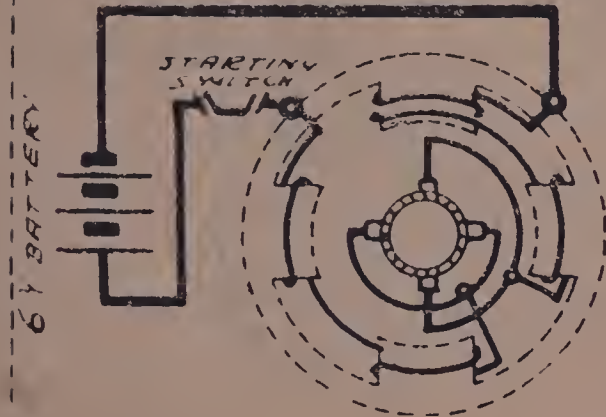
MODELS:- 307-A.



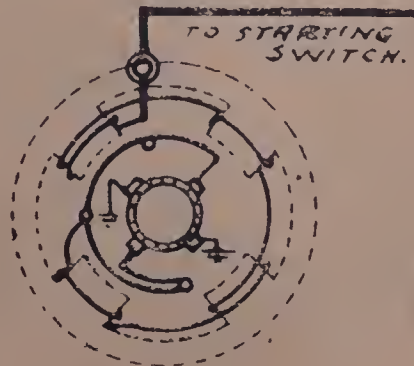
MODELS:- 309-A.



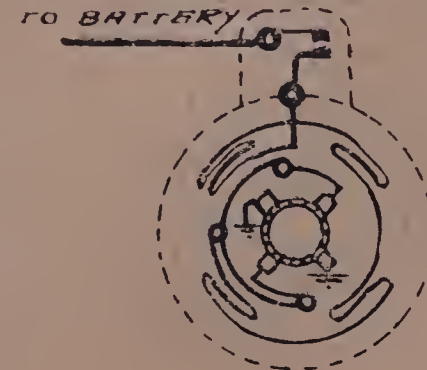
MODELS:- 705-A.
ALSO USED ON SCRIPPS-BOOTH - Mod. B-39.



MODELS:- 735-B, 735-C



MODEL-USED ON 1920 KISSEL



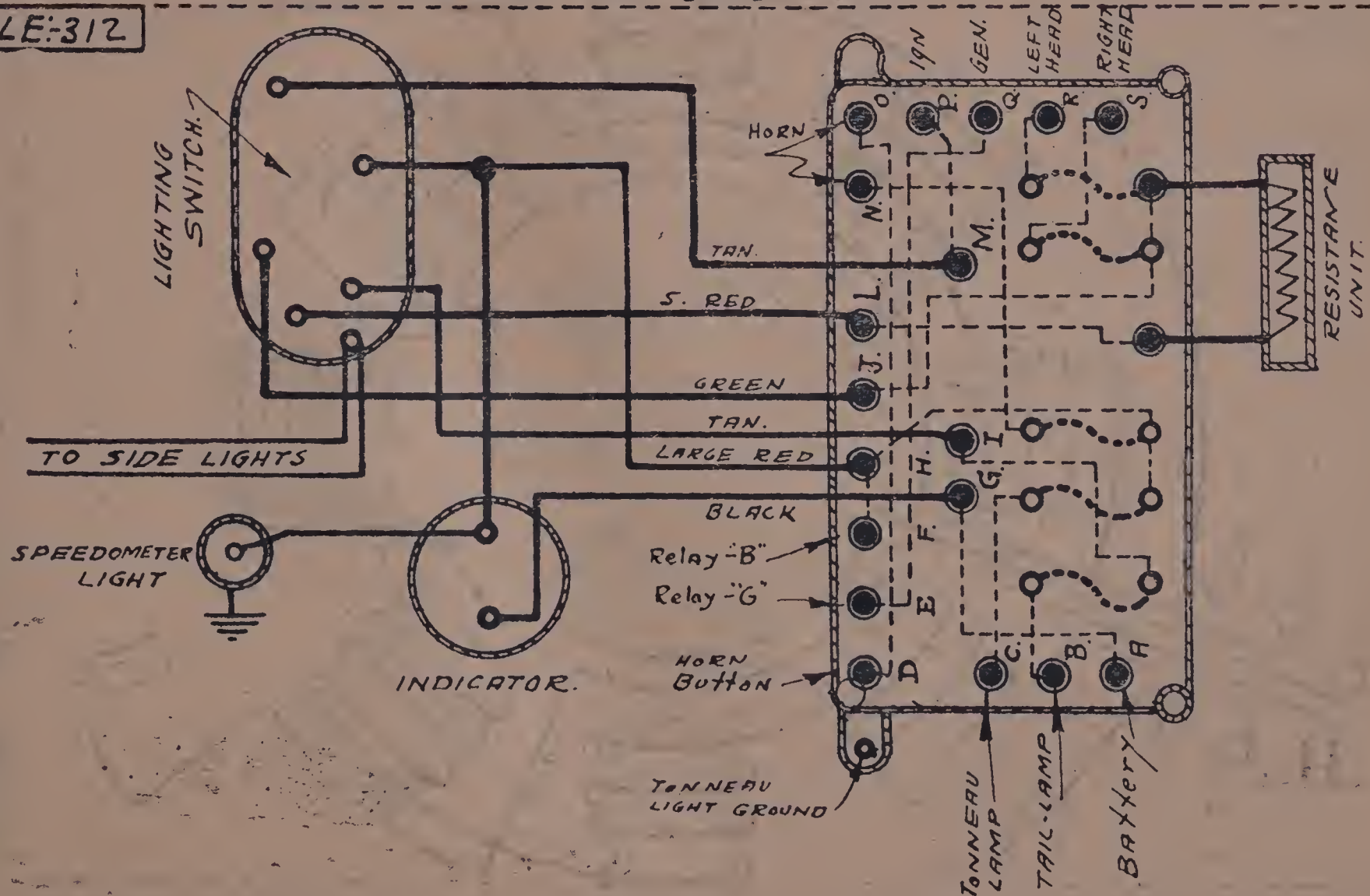
MODEL - 308-A.

STUDEBAKER

INTERNAL CONNECTIONS OF JUNCTION BLOCK.

AS USED IN 1920-1921.

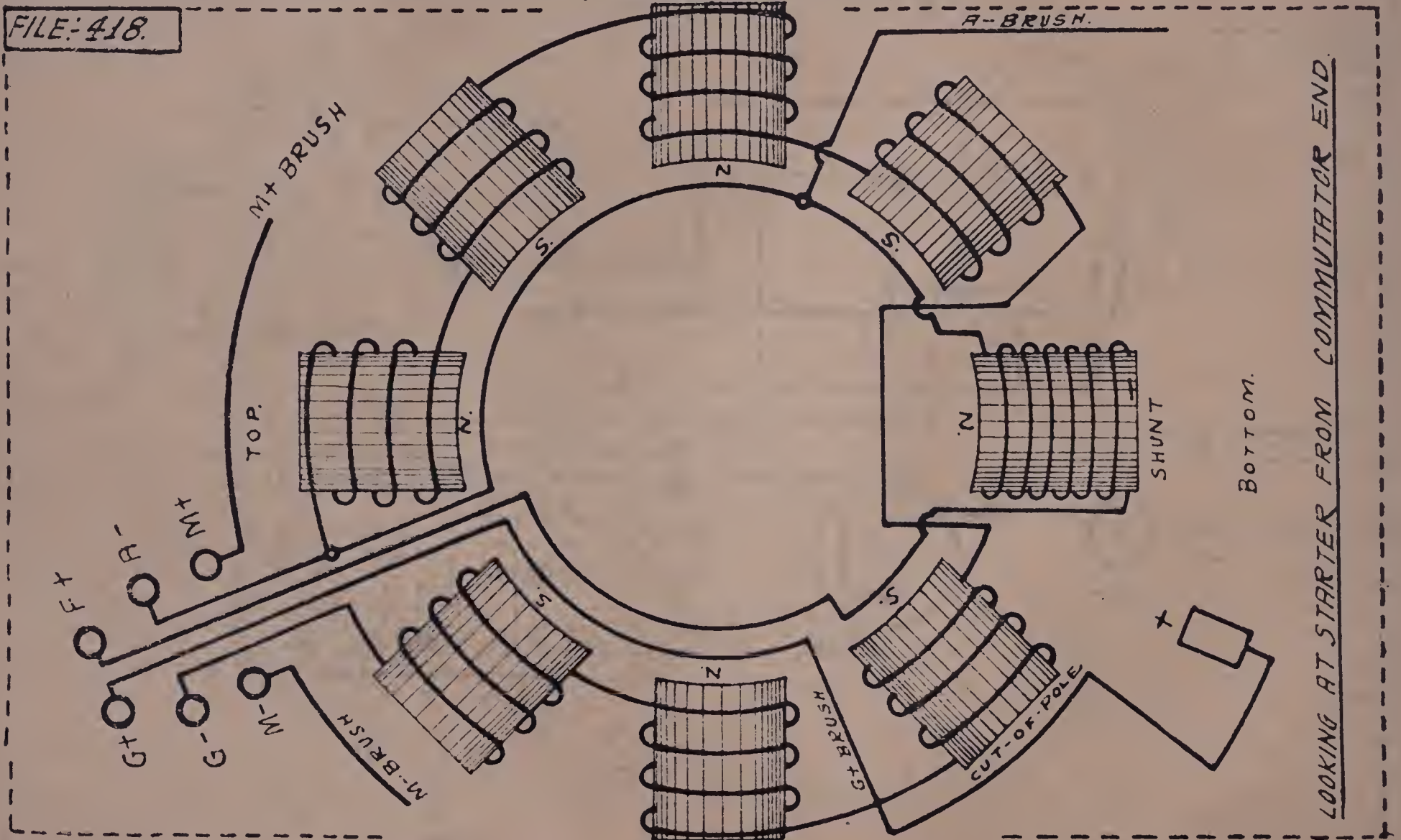
FILE:312



U.S.L.

STARTER & LIGHTER TYPES-E-104, E-111, E-119, E-120, E-135, E-138, E-167, E-169, E-171.
ALL 24-12 TYPES. INCLUDES WILLYS-KNIGHT, MOYER, JEFFERY, & S.G.V.

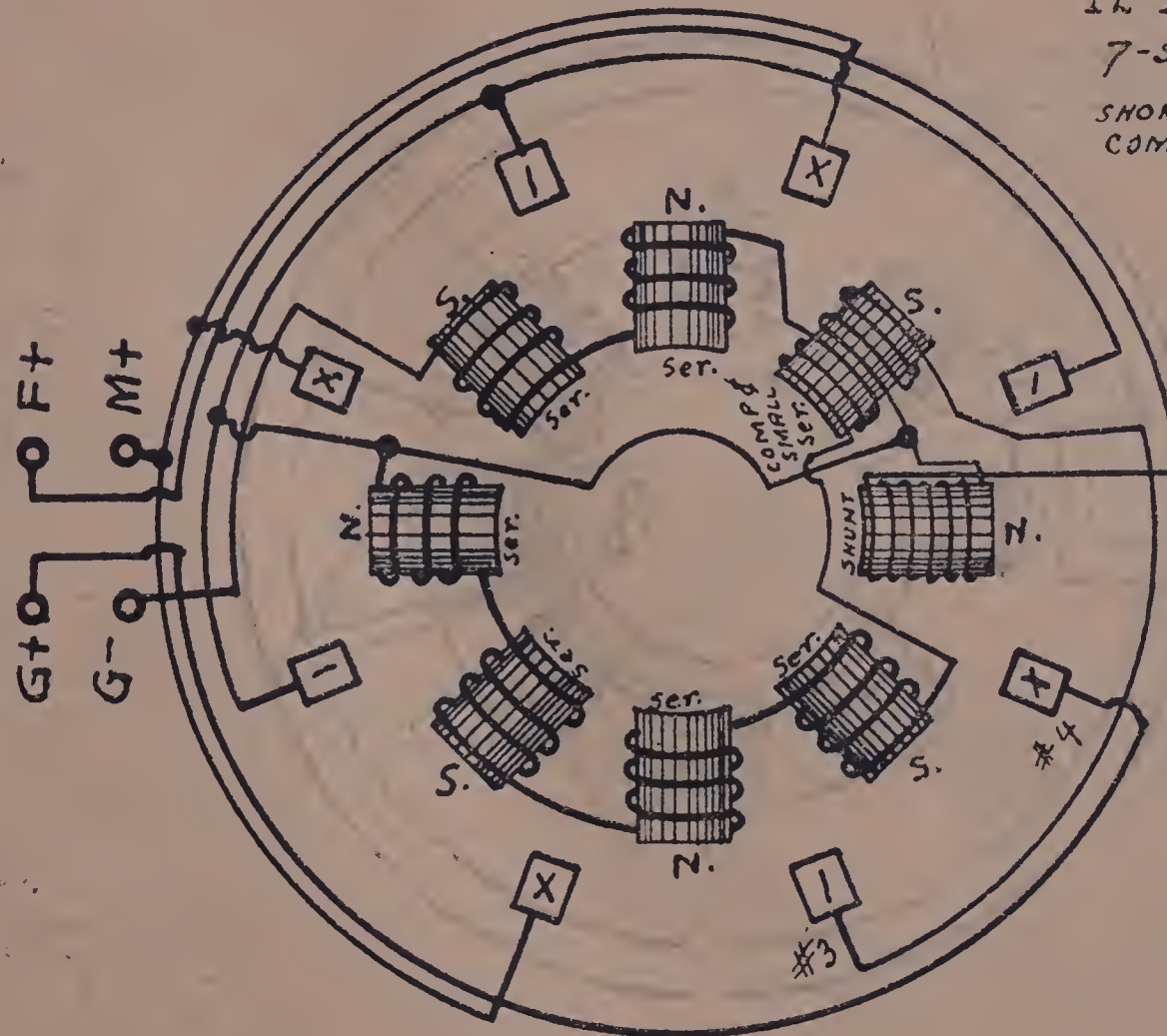
FILE: 418.



U.S.L.
STARTER & LIGHTER
TYPE-E-177. INCLUDES 1915 'MERCER'

FILE: 418.

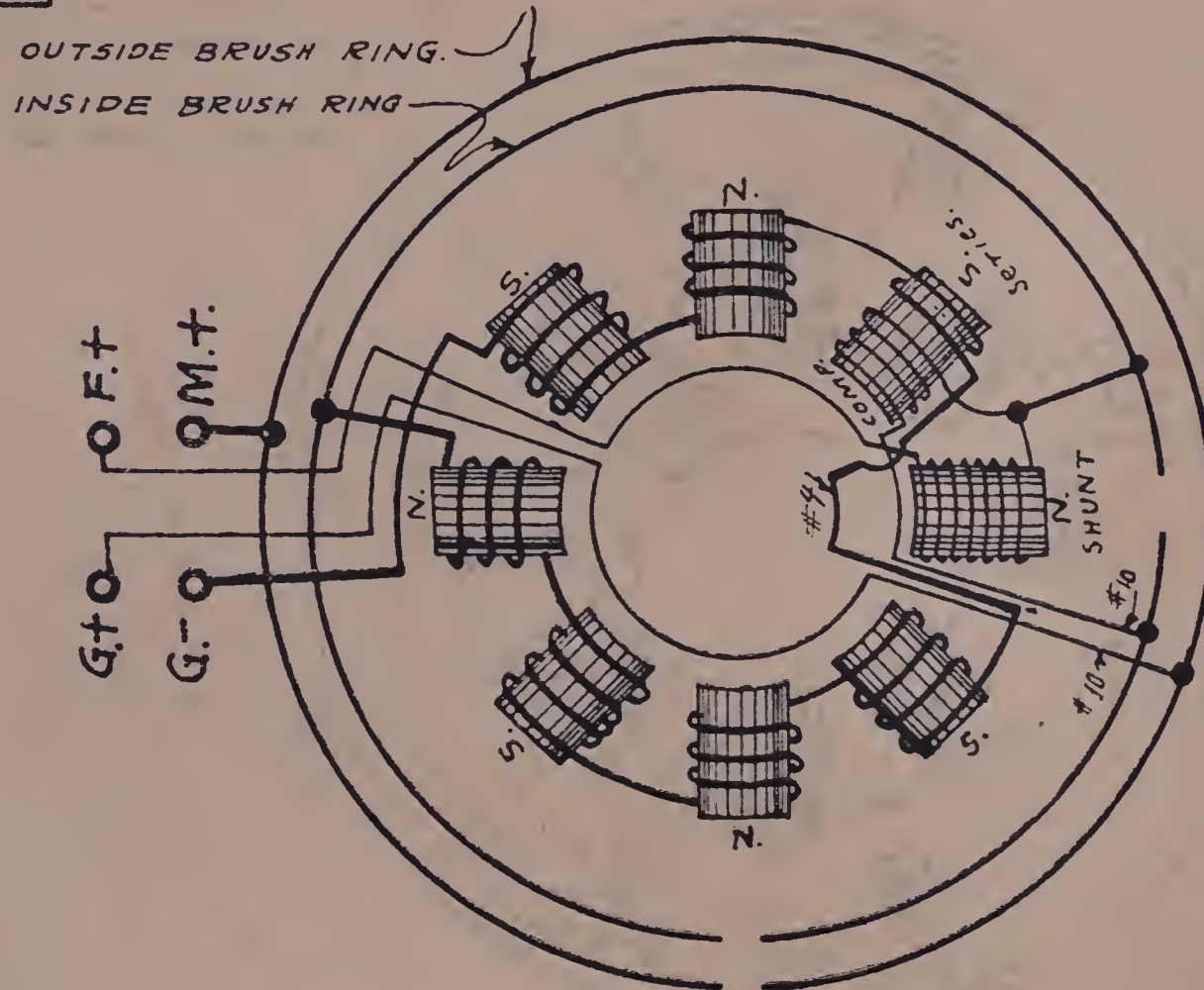
12-12 VOLTS, 8-POLES,
7-SERIES COILS,
SHORT SERIES WITH
COMPENSATING COIL.



U.S.L.

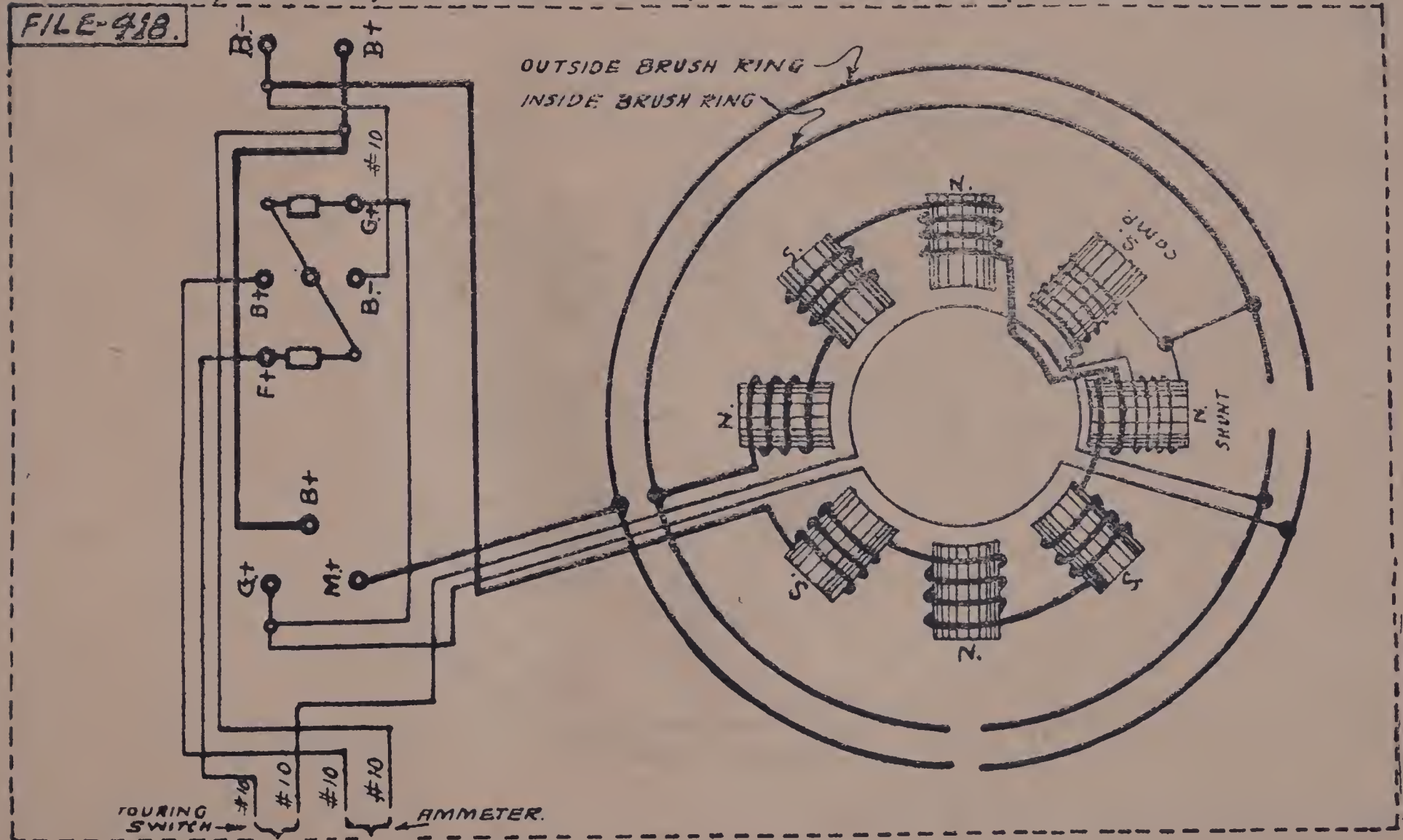
STARTER & LIGHTER, TYPES - E-177, E-189, E-194, E-195, E-197. - INCLUDES '1916-MERCER.
12-12 VOLTS, - 8 POLES, - 7-SERIES COILS, - SHORT SERIES WITH COMPENSATING COIL.

FILE: 418.



U.S.L.

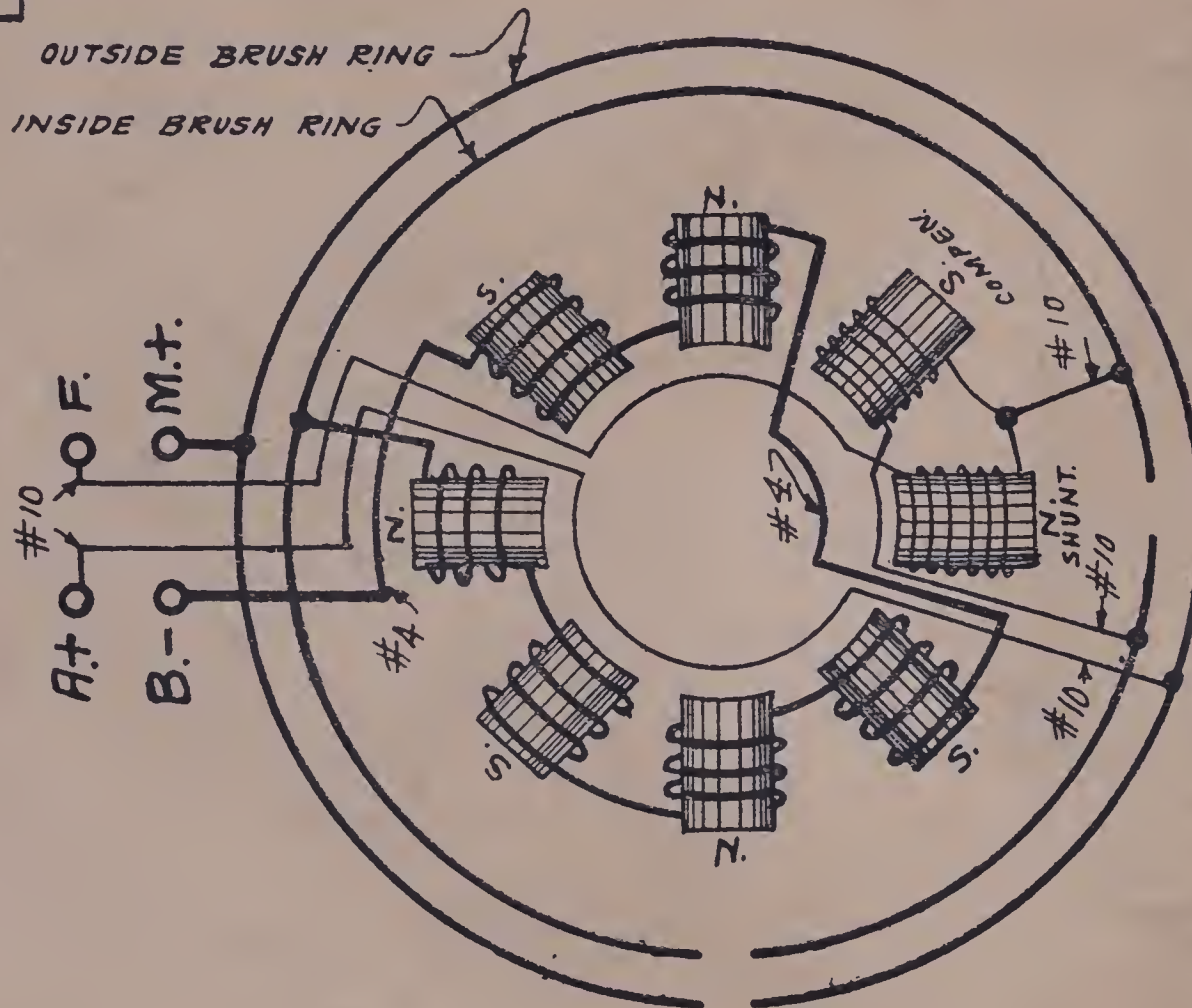
STARTER AND LIGHTER, TYPES, E-185, E-191, E-198, INCLUDES 'BREWSTER'.
12-VOLTS, 8-POLES, 7-SERIES COILS, SHORT SERIES WITH SHUNT COIL.



U. S. L.

STARTER & LIGHTER TYPE E-207, INCLUDES '1917-MERCER
12-12 VOLTS, 8-POLES, - 6-SERIES-COILS, ONE SHUNT AND ONE COMPENSATING COIL.

FILE: 418.



WESTINGHOUSE

INTERNAL CONNECTIONS.

760-A. FRAME GENERATOR, L.H. ROTATION, 3rd. BRUSH, & CUT-OUT.

FILE:-422

IN.=INSIDE OF COILS.
OUT.=OUTSIDE OF COILS.

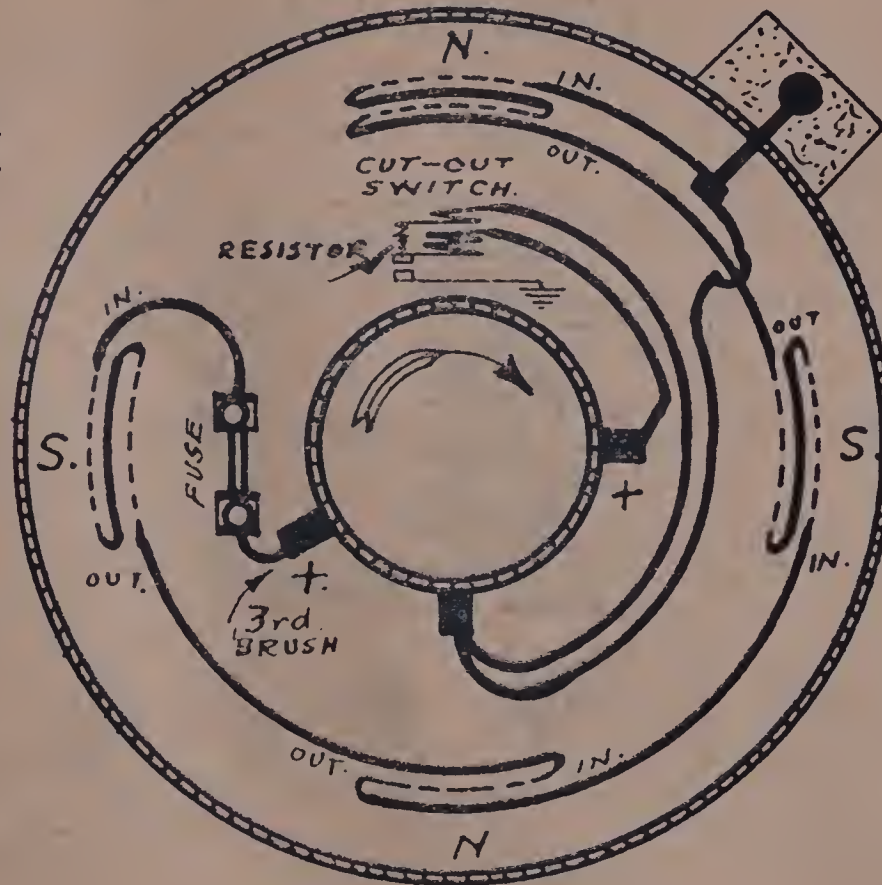


DIAGRAM OF CONNECTIONS FACING COMMUTATOR END

WARD-LEONARD

AUTOMATIC CONTROLLER

TYPE - C.C.

FILE: 416.

FIGURE ONE

SHUNT CIRCUIT

-B-1-2-3-A-14-13-17-15-B

CHARGING CIRCUIT

-B-1-2-4-5-6-D-10-11-12-13-17-15

FIELD CIRCUIT

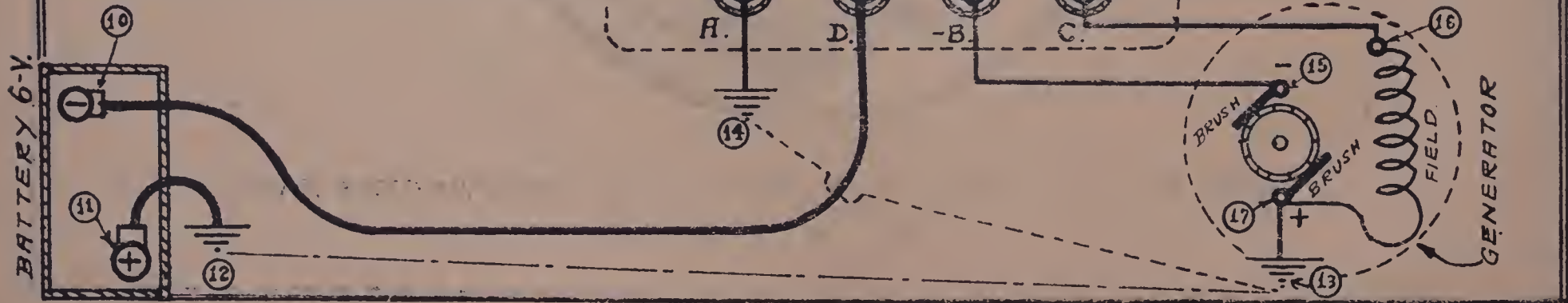
15-B-1-9-8-C-16-17-15

FIELD CIRCUIT WITH RESISTANCE

15-B-1-7-R-8-C-16-17-15

Note:-

Principle of operation explained on following page.



Principle of Operation of the Ward-Leonard Automatic Generator Controllers

FIGURE ONE, as shown on the preceding page, shows our simplified internal connections of a type C C Automatic Controller connected into a typical automobile generator circuit.

It will be noted that—

Terminal A is grounded to frame of car.

Terminal D is connected to battery negative.

Terminal B is connected to negative side of generator armature.

Terminal C is connected to the generator field winding.

The field circuit of the generator passes from terminal B through resistor R and can also pass from terminal B to 1 to 9 to 8 to terminal C, thence to the field winding of the generator.

The main circuit from the generator armature passes from terminal B to 1-2-4-5-6-M-D thence to the battery. Therefore, any energy that passes between the battery and the generator must necessarily traverse the circuit just traced, hence effecting the magnet M.

On the same core as Magnet M there is a second winding shown as magnet N, which forms a direct connection between the terminal B and A of the controller, which, in turn connects terminals A and B of the generator. The winding of magnet N is made of small wire and has such a high resistance, that it takes but a very small amount of the current from the generator.

Magnet M is called the current winding, because its magnetic effect varies directly with the current furnished by the generator.

Magnet N is called the voltage winding, because its magnetic effect varies with the voltage of the generator.

The magnets above referred to act upon two small armatures, or levers—namely S and O, which are pivoted at points 1 and 2 and carry contacts on their opposite extremities. The contact 4 is carried by lever S, and makes connection between terminal B and the terminal D. In other words, when this contact is open it is impossible for any energy to pass between the battery and the generator. The spring P holds these contacts

normally open. The spring O holds contacts 8 and 9 normally closed.

When the generator starts to rotate, its voltage increases as the speed goes up. The increasing voltage causes a corresponding increase in the magnetic pull of the voltage winding N, and the controller is so adjusted that when the proper voltage for charging is reached, the magnet attracts the lever S and closes the charging or main circuits at points 4 and 5.

Once the main circuit is closed the current windings or magnet M becomes active and strengthens the magnetic pull already produced by the magnet N, or voltage winding. Now, if the current increases beyond the point for which the controller is adjusted, the magnetic pull becomes great enough to draw up the lever O, thus opening contacts 8 and 9. The opening of these contacts introduces the resistance R in series with the field winding of the generator. The immediate result of which is to reduce the current output of the generator. If the current drops below the value at which the controller is adjusted, these contacts close again, short circuiting the resistance R and thus permitting the generator to again increase its current output.

If the speed of the generator is so high that the normal current exceeds the limit for which the controller is adjusted, contacts 8 and 9 will open and close continually, decreasing and increasing the current output of the generator at such a rate as to keep it at some particular predetermined value.

If the voltage of the battery should exceed that of the generator, the current in the circuit would reverse, and the generator would become a motor driven by the battery. This difficulty is overcome by the controller releasing the lever S, and opening the circuits at contacts 4 and 5 the instant the current in the main circuit is reversed. This feature is called a Reverse Current Cut-out.

From the foregoing SIMPLIFIED description of the operation it is seen that the Ward-Leonard Generator Controller automatically connects the generator at the proper moment, controls its output of energy within very narrow limits, and automatically disconnects the generator when there is danger of its taking energy from the battery.

WESTINGHOUSE

INTERNAL CONNECTIONS.

760-B. FRAME:- GENERATOR, L.H. ROTATION.

FILE:-422-

IN. = INSIDE OF COIL
OUT. = OUTSIDE OF COIL.

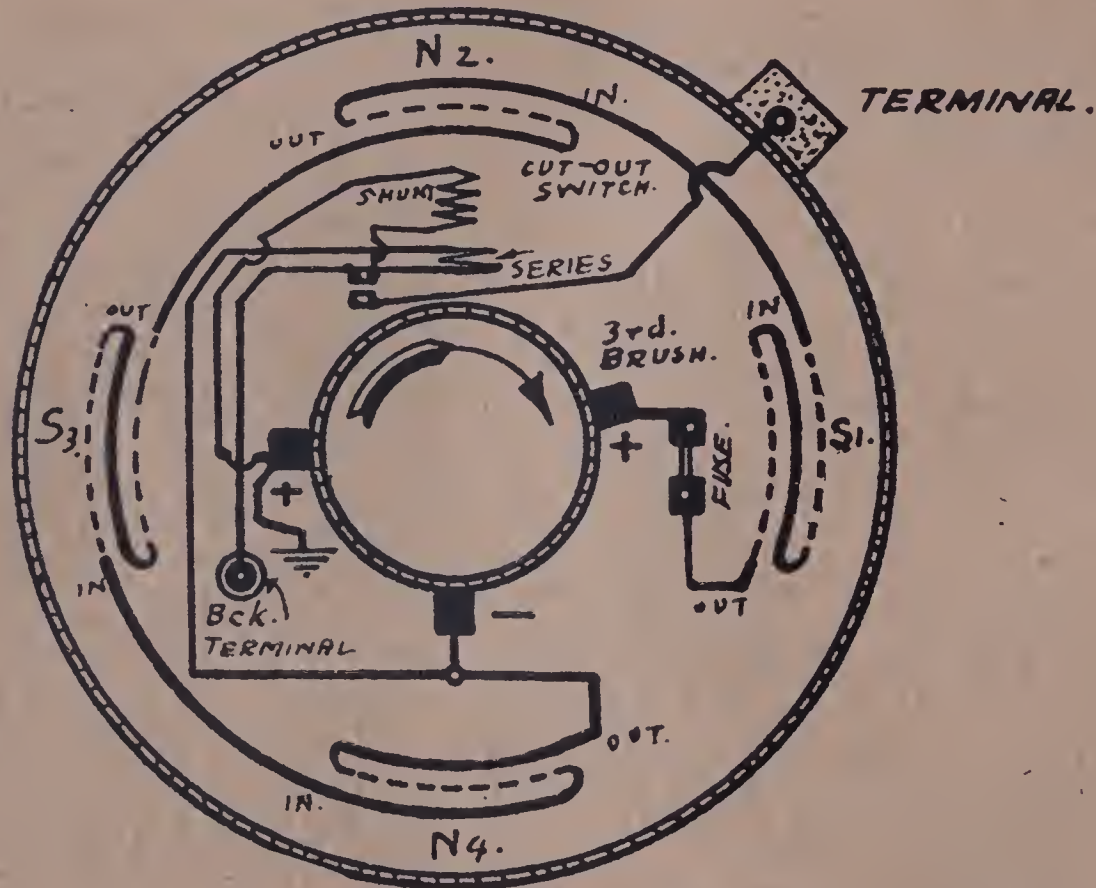


DIAGRAM OF CONNECTIONS FOR 760 FRAME-GENERATOR, 3rd BRUSH ON RIGHT INSULATED CUT-OUT, AND CUT-OUT ON NEGATIVE SIDE, FACING COMMUTATOR END. DIAGRAM HERE SHOWN INCLUDES GENERATOR 206136.

WESTINGHOUSE

INTERNAL CONNECTIONS

760-C. FRAME GENERATOR, R.H. ROTATION, 3rd BRUSH, EXTERNAL CUT-OUT

FILE: 422.

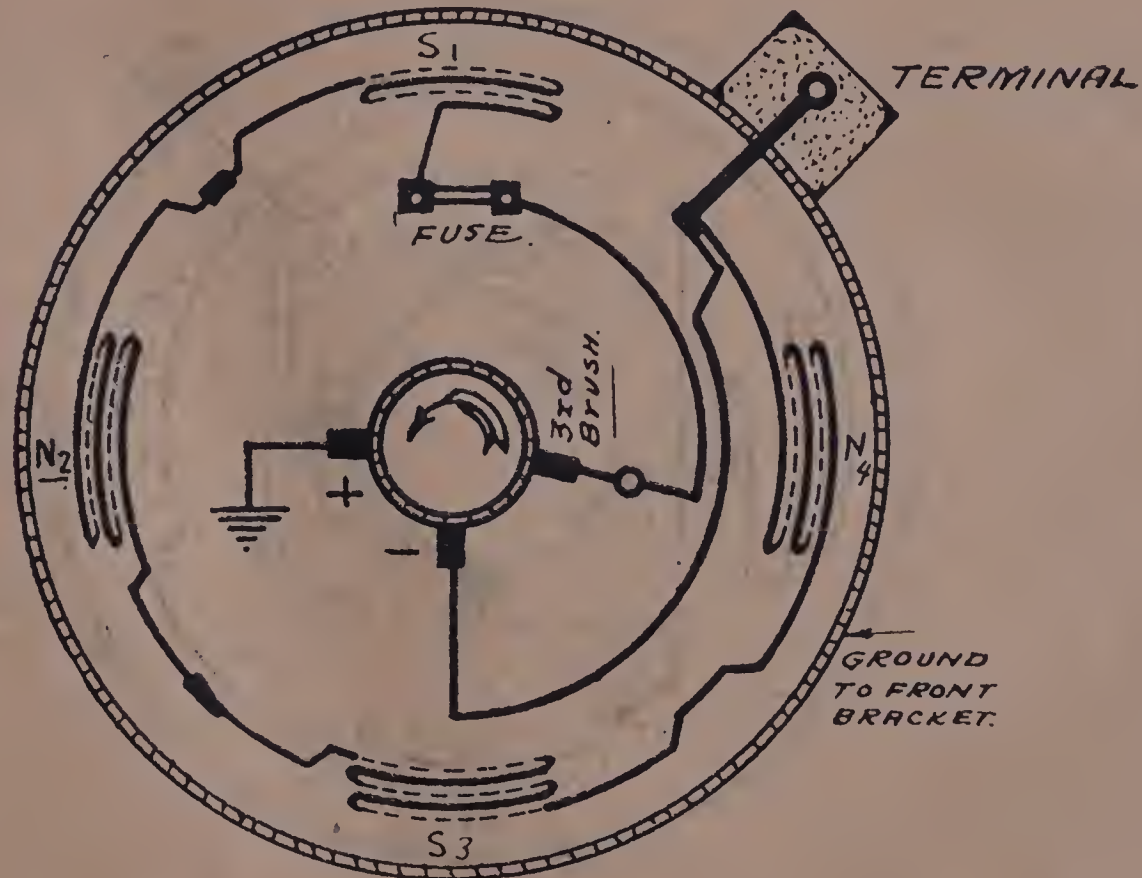


DIAGRAM OF CONNECTIONS FOR CLOCKWISE ROTATION, FACING DRIVE OR PINION END, AND WITH 3rd BRUSH FOR GENERATOR STYLE 274886 AS USED. ON STANDARD STEEL CARS

WESTINGHOUSE

INTERNAL CONNECTIONS

760-D. FRAME GENERATOR, L.H. ROTATION, 3rd BRUSH & CUT-OUT.

FILE: 422.

IN = INSIDE OF COIL
OUT = OUTSIDE OF COIL

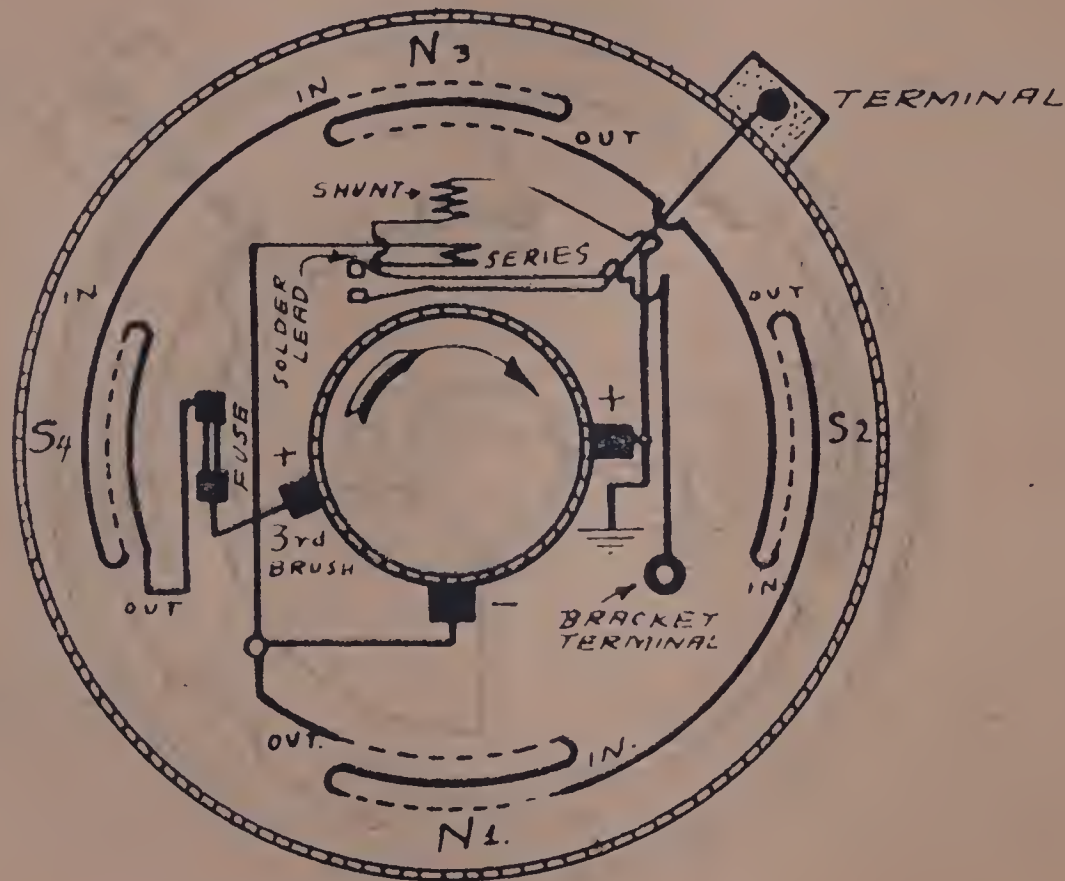


DIAGRAM OF CONNECTIONS L H. ROTATION FACING PINION OR DRIVE END.
DIAGRAM SHOWN INCLUDES GENERATOR 287842 & 286583 AS USED ON MERCER
CARS, 3rd BRUSH ON L H SIDE AND INSULATED CUT-OUT

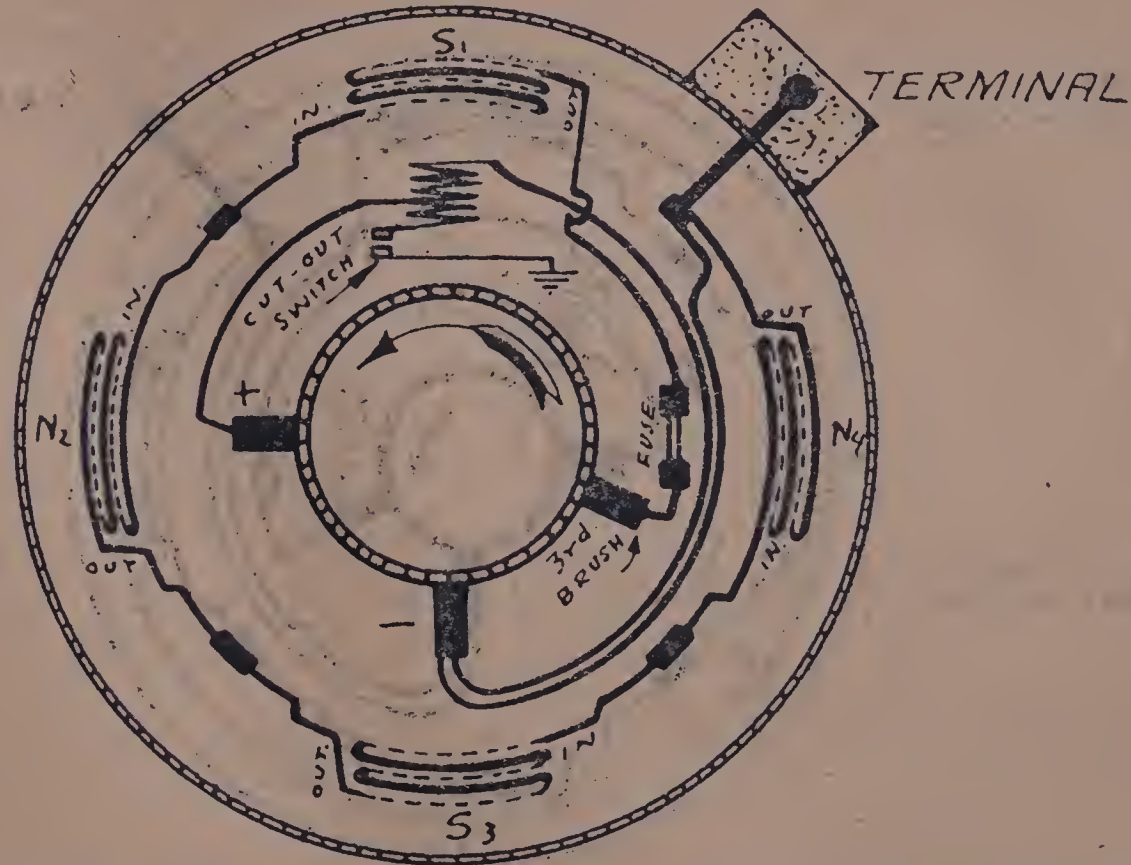
WESTINGHOUSE

INTERNAL CONNECTIONS

760-E FRAME GENERATOR, R.H. ROTATION, 3RD. BRUSH, & CUT-OUT.

FILE: 422

IN = INSIDE OF COIL
OUT = OUTSIDE OF COIL



STANDARD CONNECTIONS FOR 760 FRAME, 3RD. BRUSH, INTERNAL CUT-OUT,
R.H. ROTATION. GENERATORS FACING PINION END, SHOWING CUT-OUT SWITCH
AND 3RD BRUSH

WESTINGHOUSE

INTERNAL CONNECTIONS

760-F. FRAME GENERATOR, R.N. ROTATION, 3rd. BRUSH, & CUT-OUT.

FILE- 422.

IN = INSIDE OF COIL
OUT = OUTSIDE OF COIL

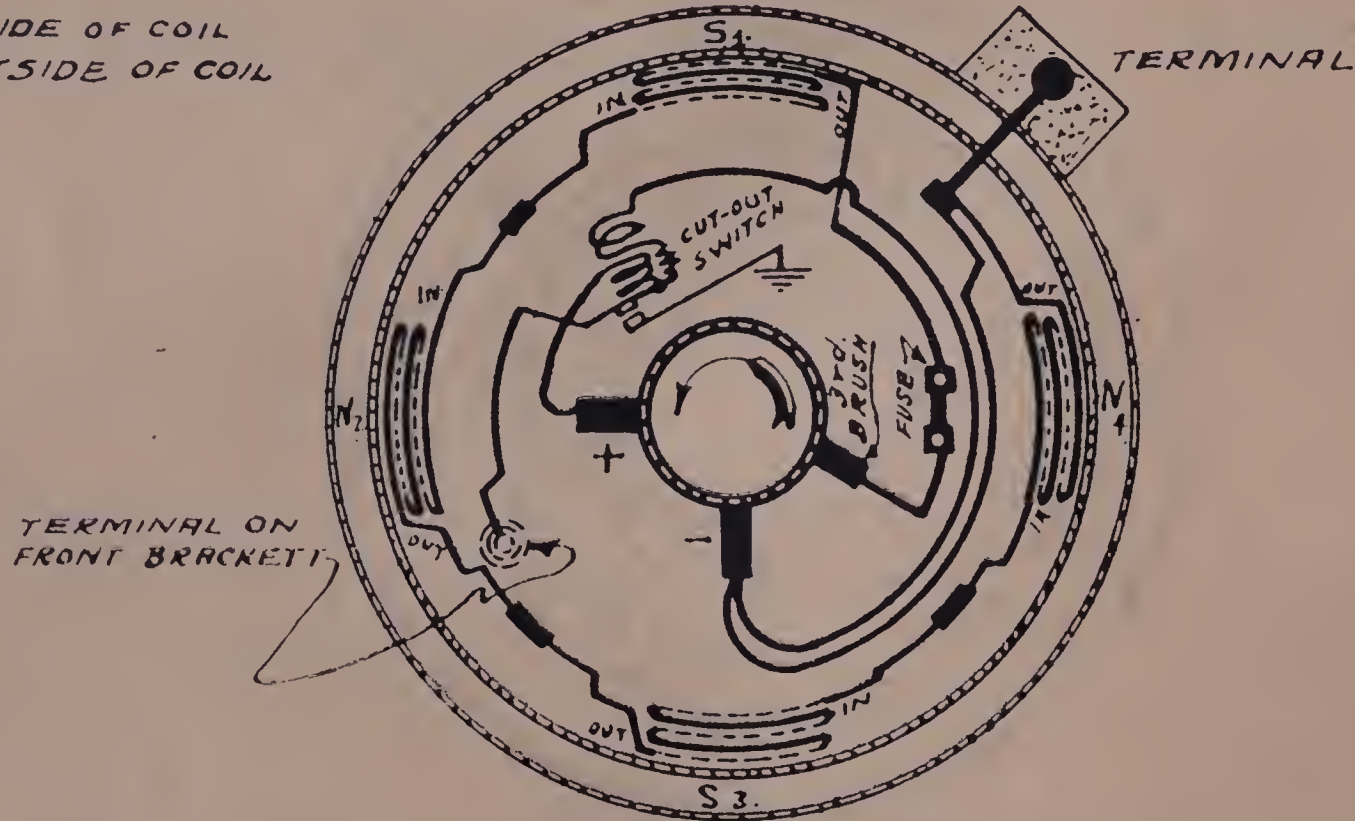


DIAGRAM OF CONNECTIONS FOR CLOCKWISE ROTATION, FACING DRIVE OR PINION END
SHOWING INTERNAL CUT-OUT AND THIRD BRUSH FOR GENERATOR STYLE USED ON
LOCOMOBILE CARS.

WESTINGHOUSE

INTERNAL CONNECTIONS

765-H, ERAME GENERATOR, R.H. ROTATION, 3rd BRUSH.

FILE:-422

12-VOLTS, WITH SEPARATE
CUTOUT.

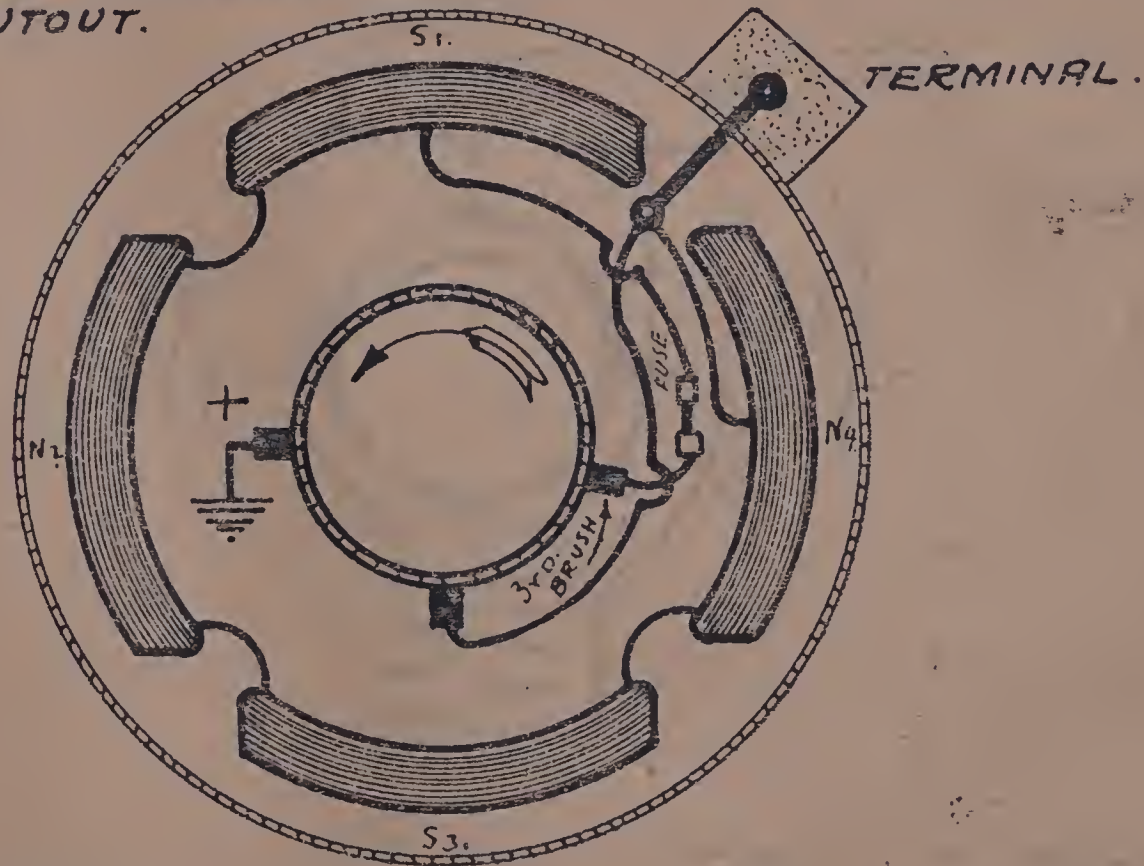


DIAGRAM OF CONNECTIONS FOR 765 FRAME GENERATOR R.H. ROTATION
FACING PINION END. USED BY GENERATOR STYLE 287942 AND 288528-A.

WESTINGHOUSE

INTERNAL CONNECTIONS

750^{R.} FRAME MOTOR — R.H. ROTATION

FILE: 422.

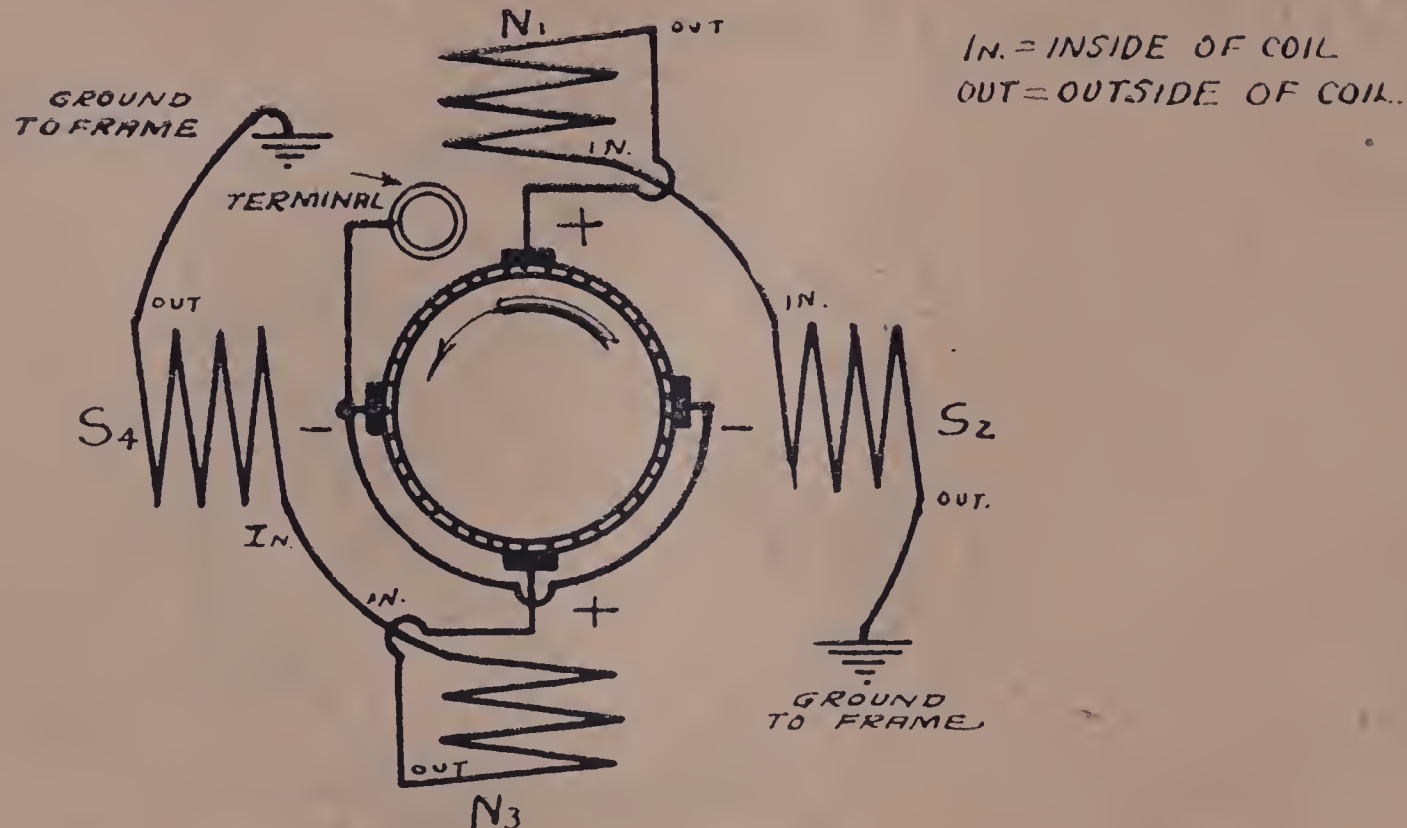


DIAGRAM OF CONNECTIONS FOR R.H. ROTATION, FACING PINION END
FOR 750-FRAME MOTOR.

WESTINGHOUSE

INTERNAL CONNECTIONS

776 & 778 FRAME MOTORS R.H. ROTATION.

FILE: 422.

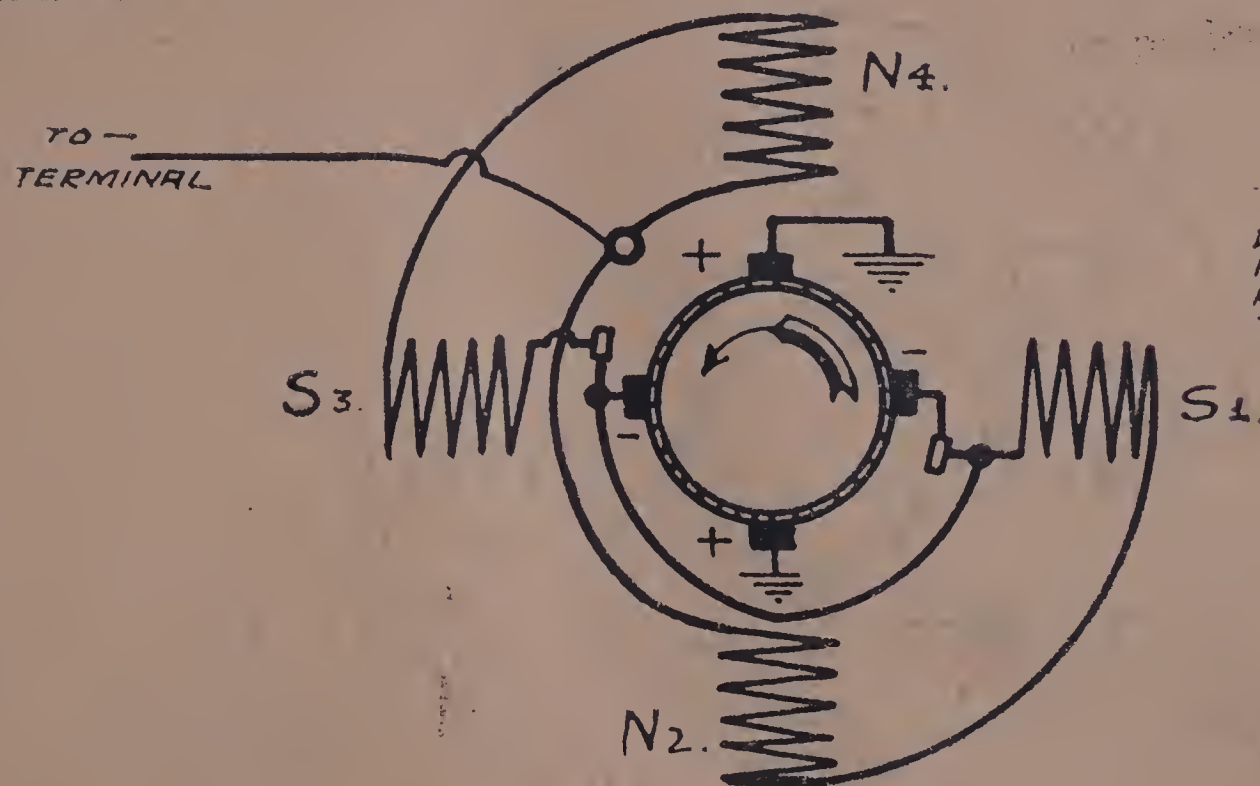


DIAGRAM OF CONNECTIONS
FOR COUNTER CLOCKWISE
ROTATION FACING COMMU-
TATOR END

WIRING DIAGRAM FOR STANDARD 776 AND 778 FRAME STARTING MOTORS
LOOKING AT PINION FOR MOTORS 287841, 287988, 290371 AND OTHERS.

WESTING HOUSE

INTERNAL CONNECTIONS

777-FRAME MOTOR R.H. ROTATION.

FILE:- 422.

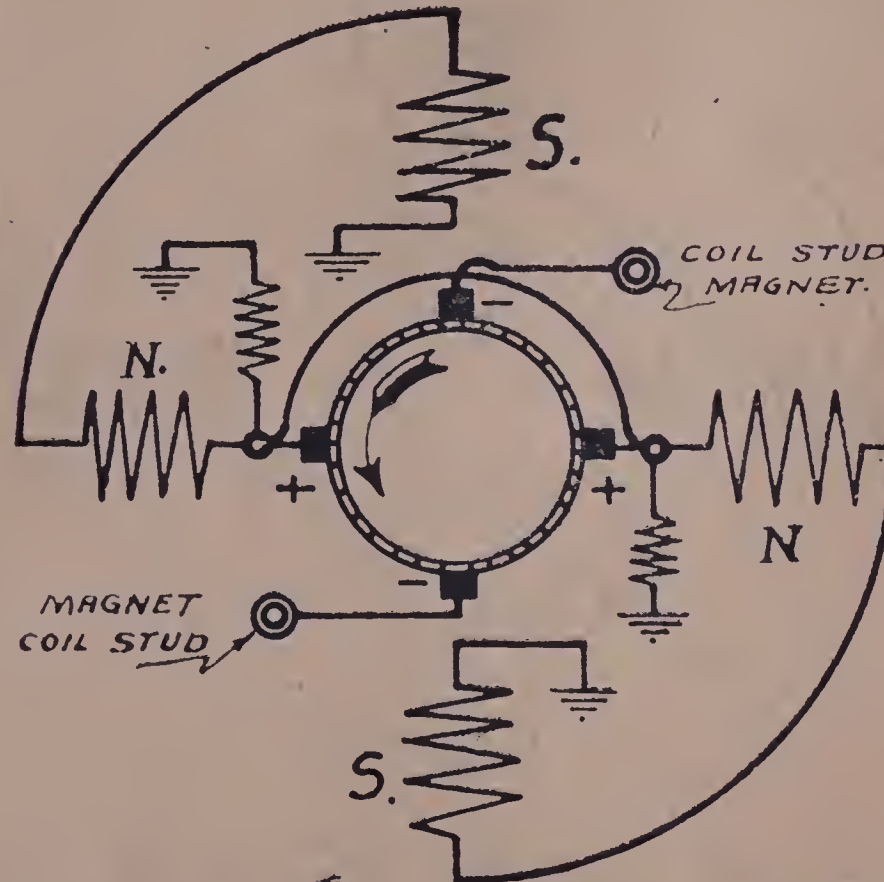


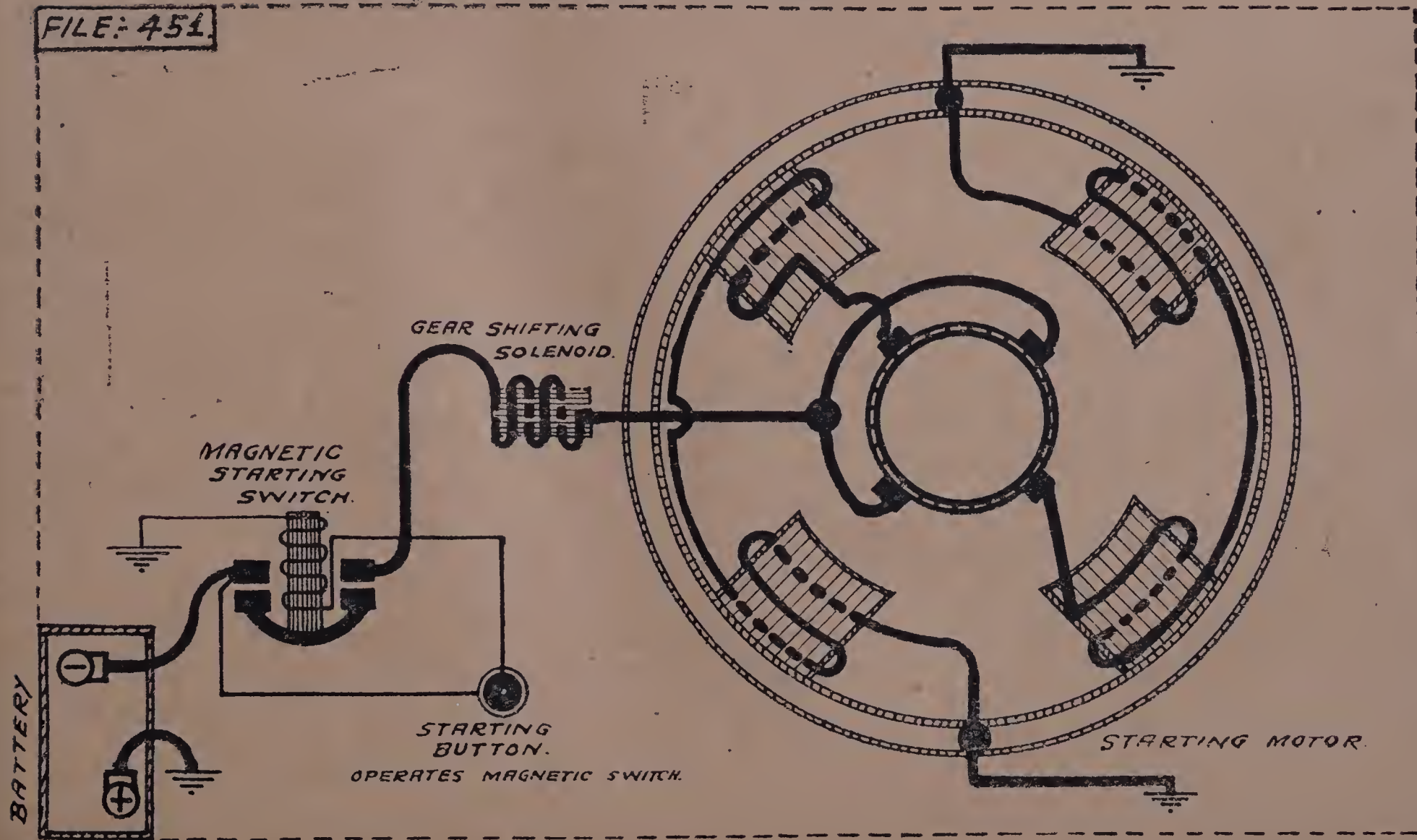
DIAGRAM OF CONNECTIONS FOR #777 FRAME MOTOR R.H. ROTATION VIEWING PINION END. THIS DIAGRAM APPLIES TO MOTOR STYLE 284833-A. AS USED ON PIERCE ARROW CARS, AND STYLE 288732 AND 297800, AS USED ON MCFARLAN CARS, AND TO ALL OTHER FRAME MOTORS #777 - R.H. ROTATION

WESTINGHOUSE

INTERNAL CONNECTIONS.

781-R, FRAME MOTOR.

FILE: 451



Wiring Diagrams

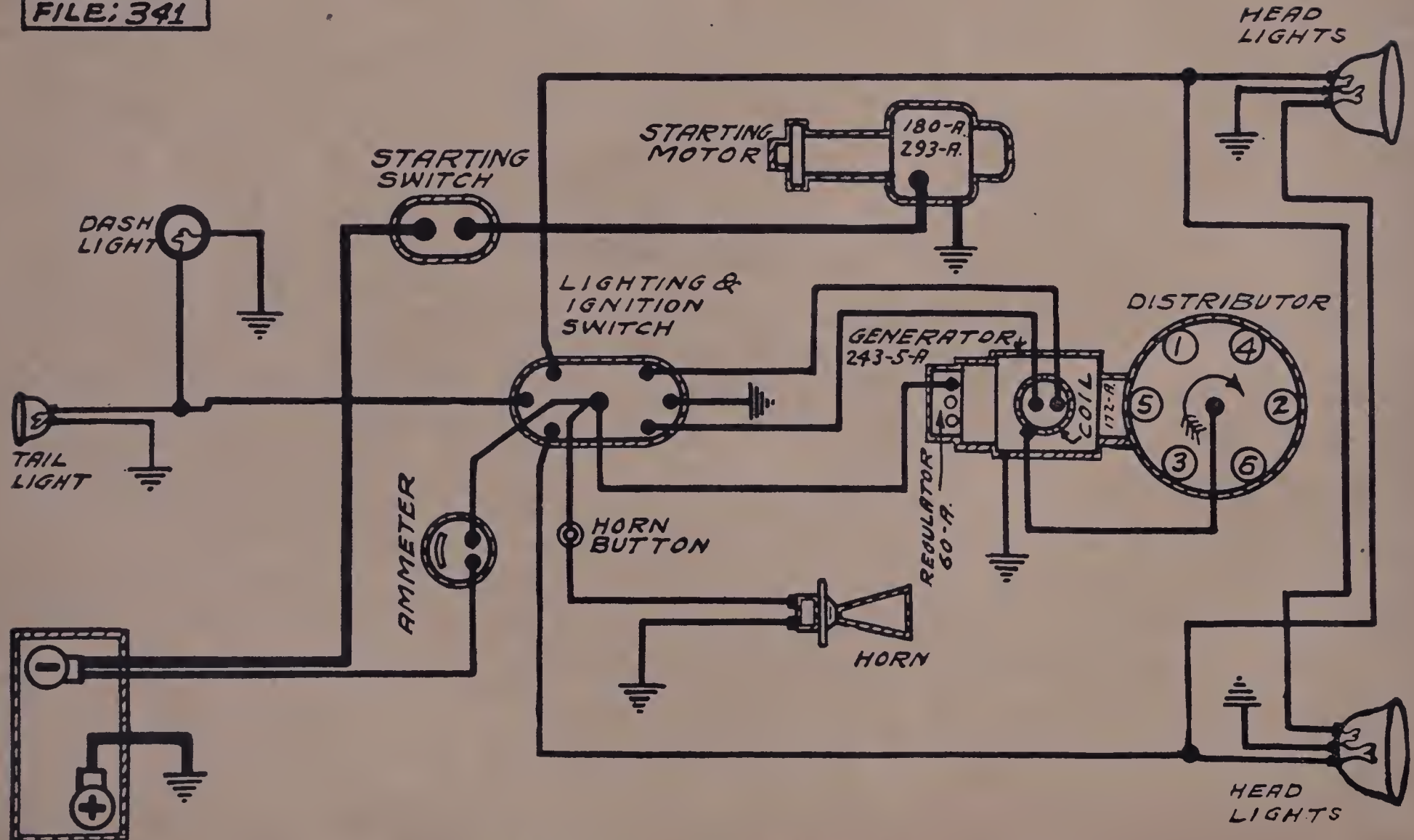
THE following diagrams will show the correct circuits of the electrical systems used on all Automobiles, Trucks, Tractors, and Motorcycles. They show the wiring as it is when the machines leave the factory.

ABBOTT-DETROIT

1916-1917 MODEL 6-44

6-VOLT REMY SYSTEM

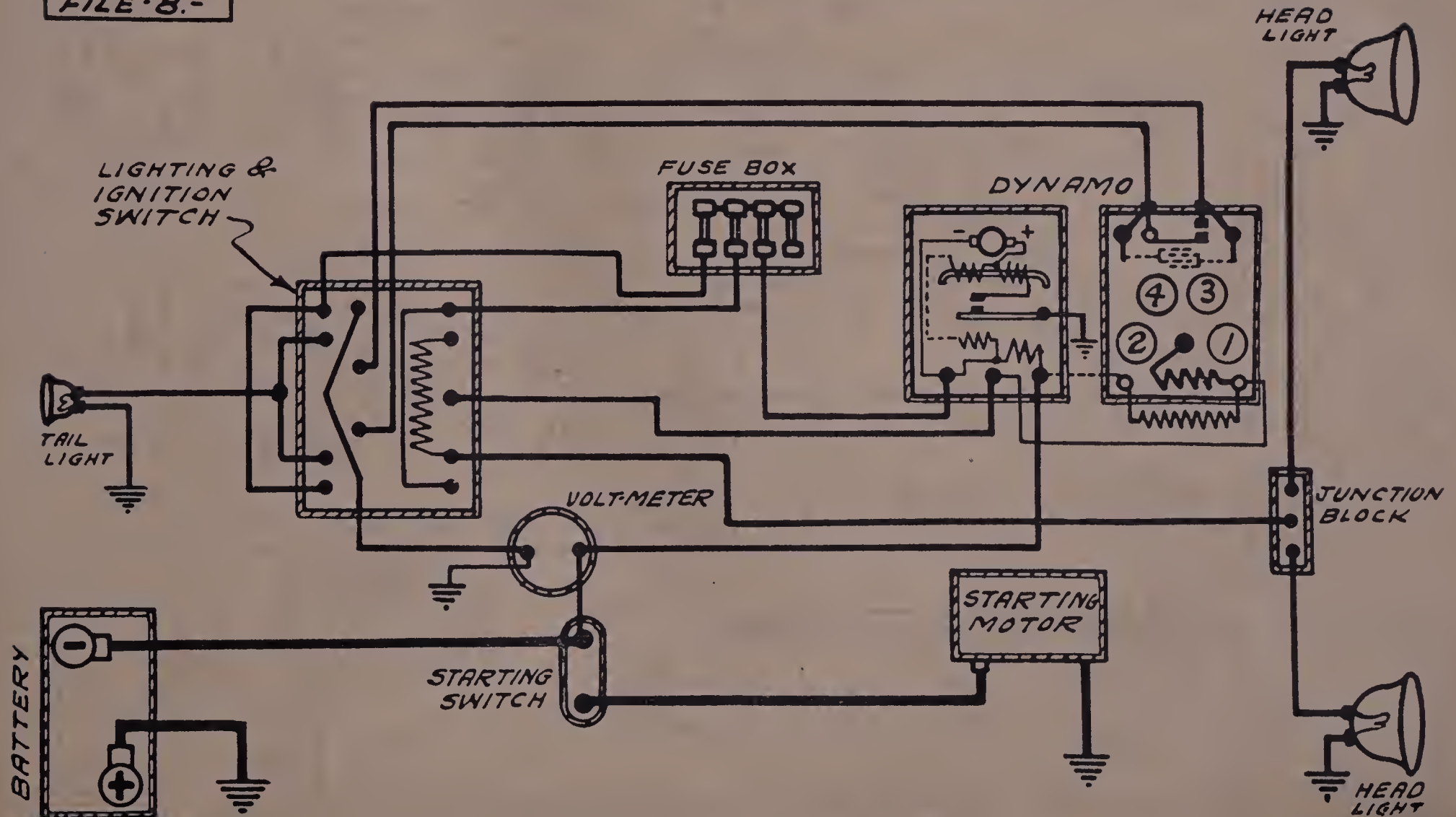
FILE: 341



ALLEN

1914-1915 MODEL -33- -34-
6-VOLT WESTINGHOUSE SYSTEM

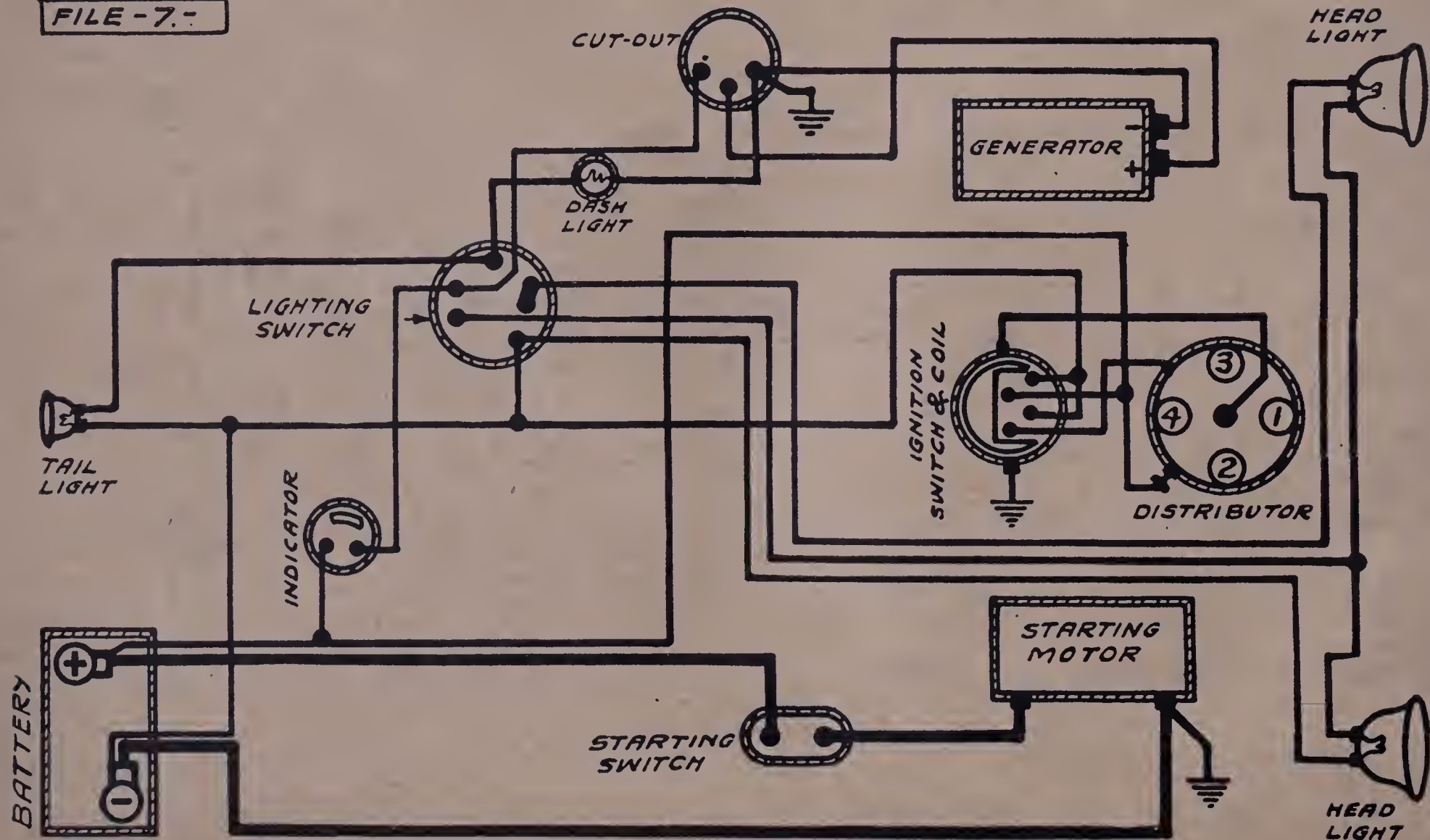
FILE-8.-



ALLEN

1914-1915 MODEL -35-
6-VOLT AUTOLITE SYSTEM

FILE-7.-



ALLEN

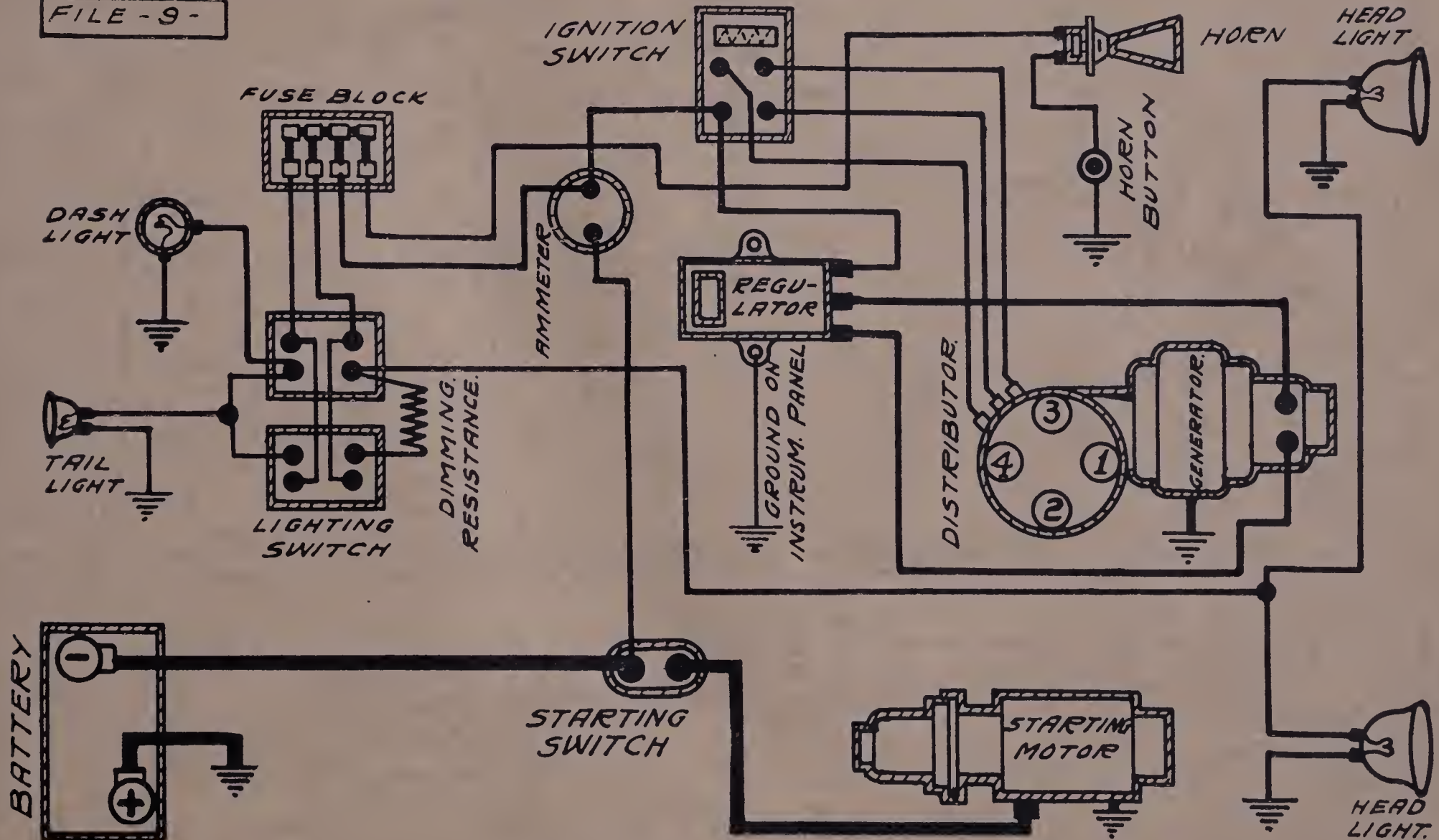
1916

(WITH DIMMING RESISTANCE.)

MODEL 37.

6-VOLT, WESTINGHOUSE SYSTEM.

FILE - 9 -



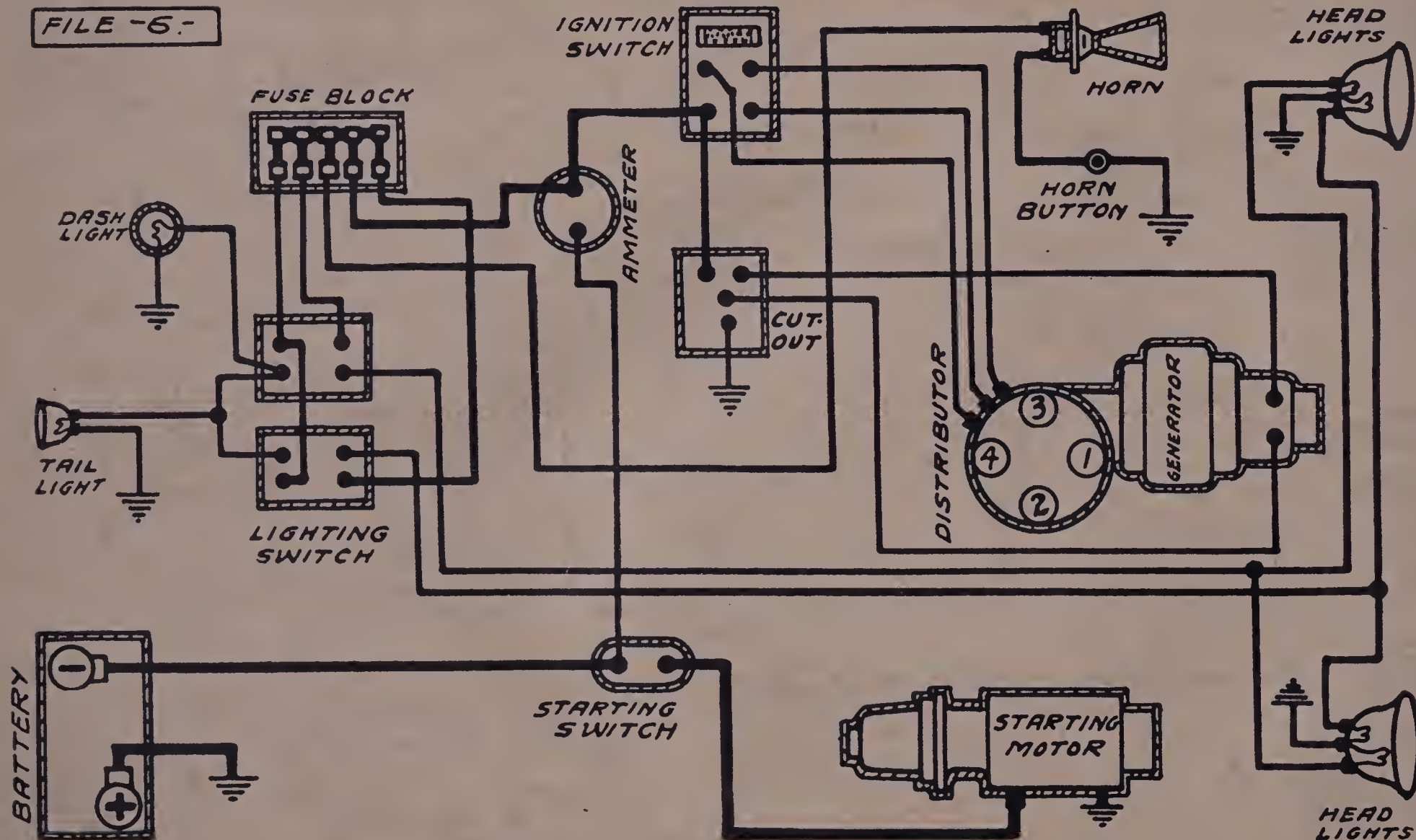
ALLEN

1916

MODEL-37-

6-VOLT WESTINGHOUSE SYSTEM

FILE -6.-

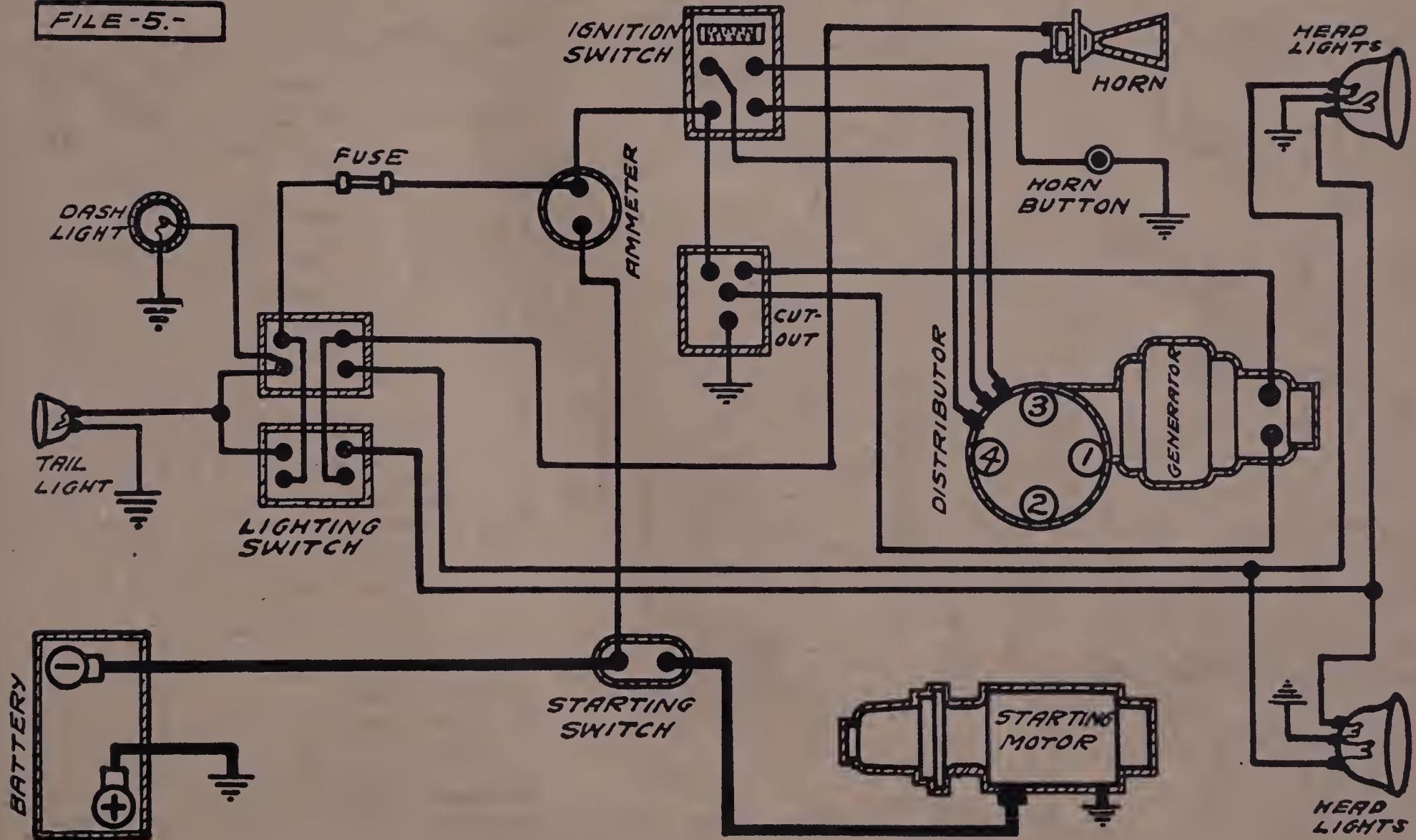


ALLEN

1917

MODEL - CLASSIC -
6-VOLT WESTINGHOUSE SYSTEM

FILE-5.-



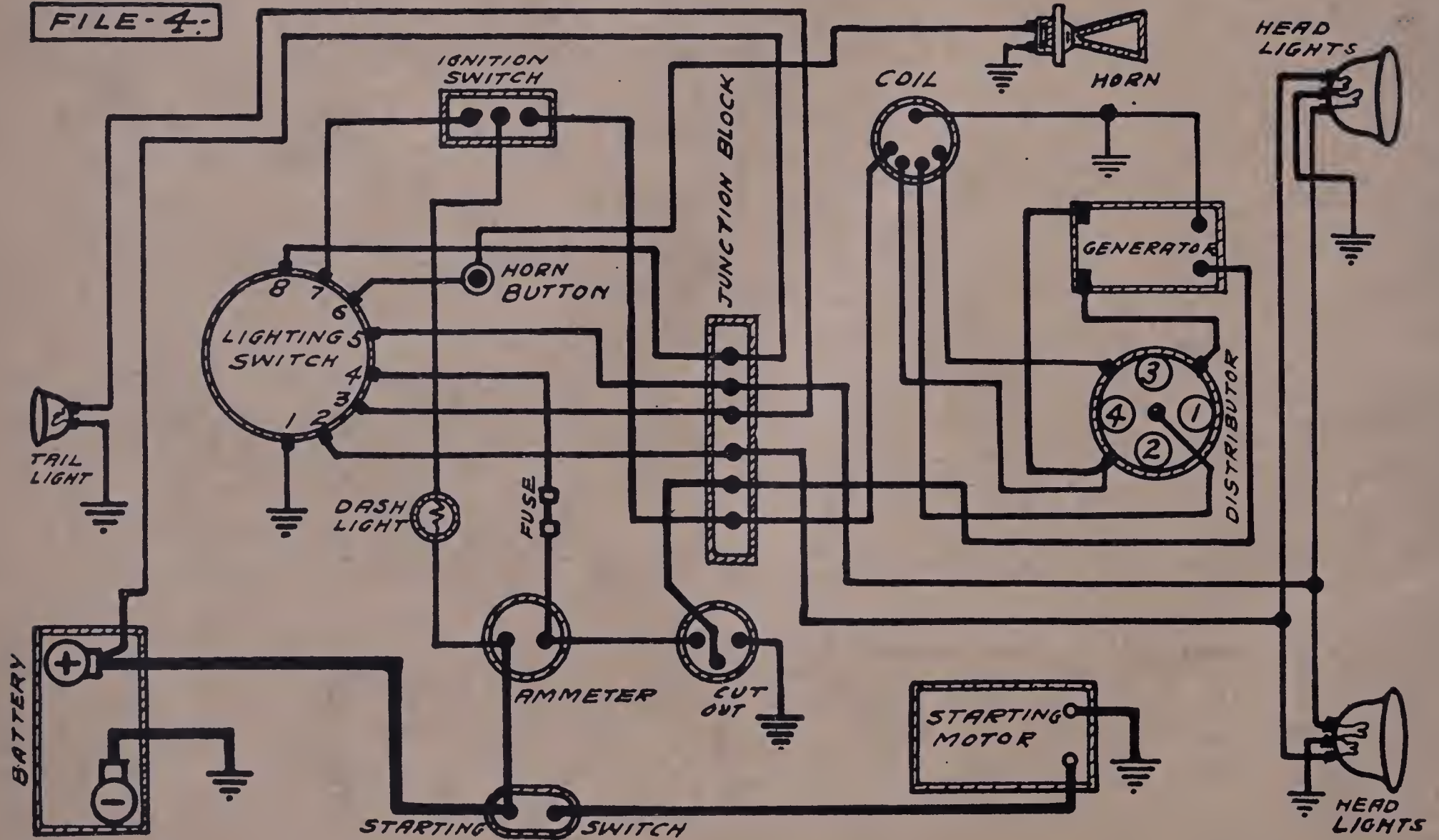
ALLEN

1918

MODEL -41-

6-VOLT AUTOLITE SYSTEM

FILE-4-

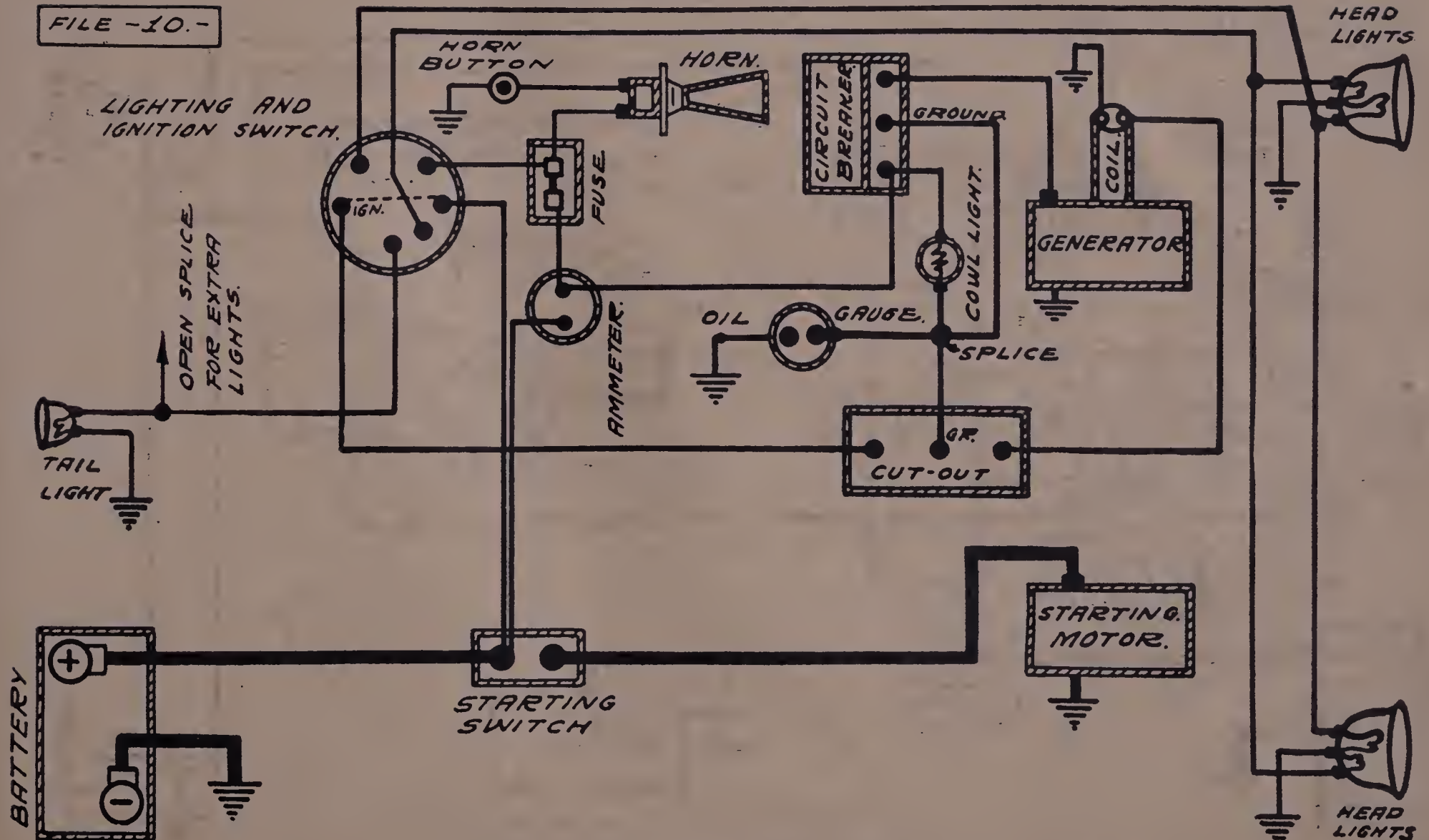


ALLEN

1919.

MODEL 41.

6-VOLT, AUTOLITE SYSTEM.



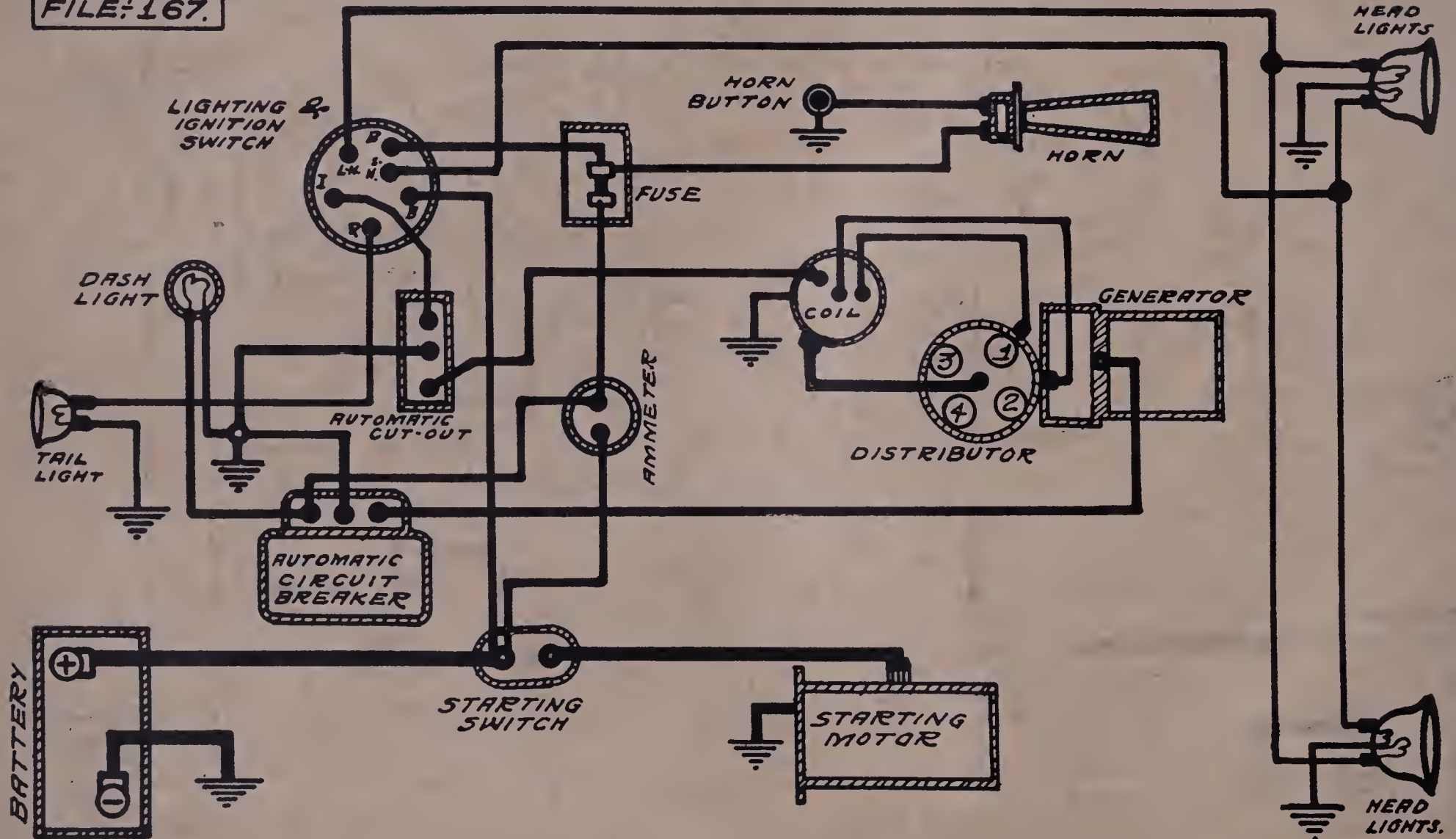
ALLEN

1920

MODEL 43.

6-VOLT, -AUTOLITE SYSTEM.

FILE: 167.

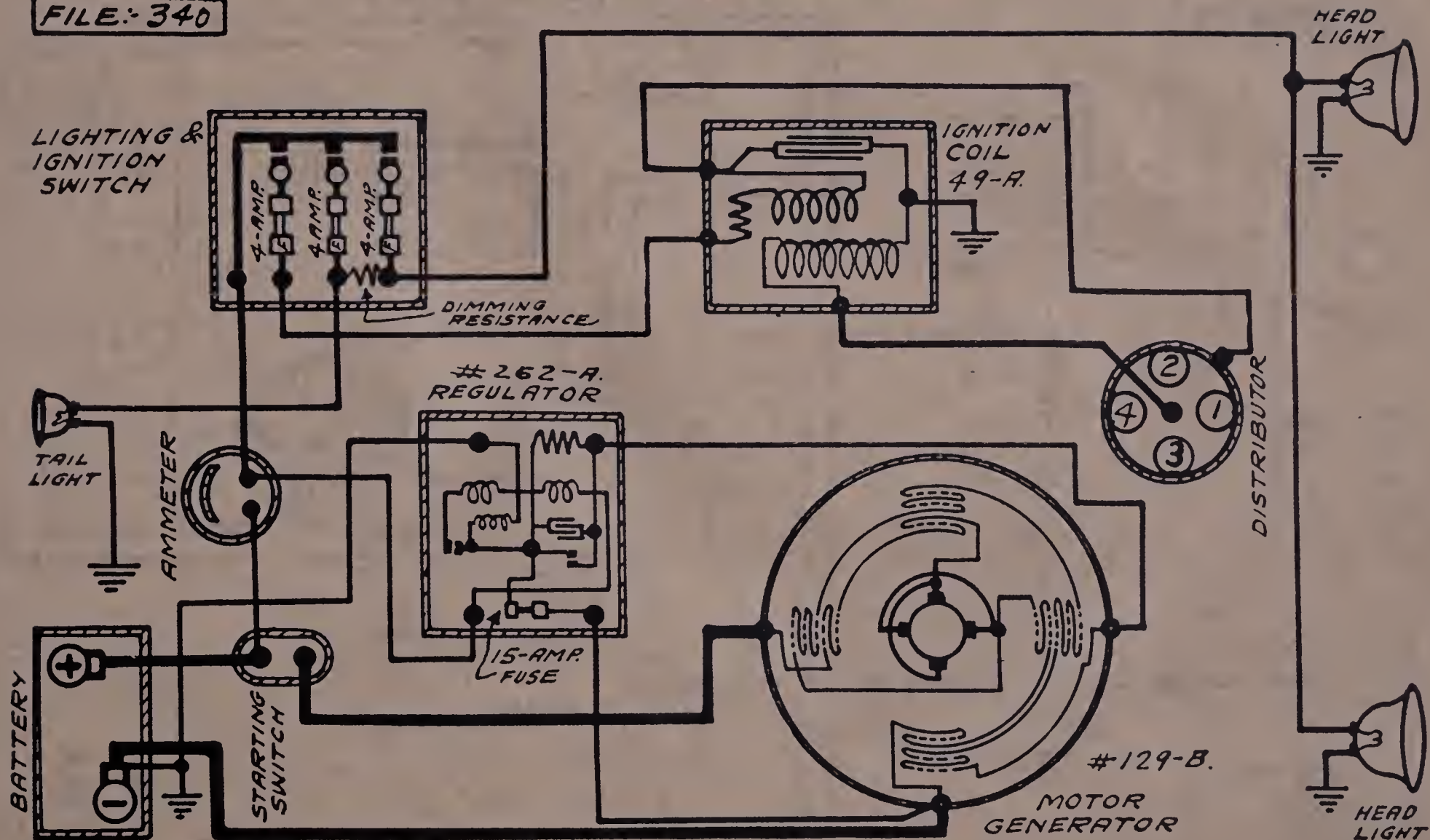


ALTER

1916-1915 MODEL

12-VOLT REMY SYSTEM

FILE: 340



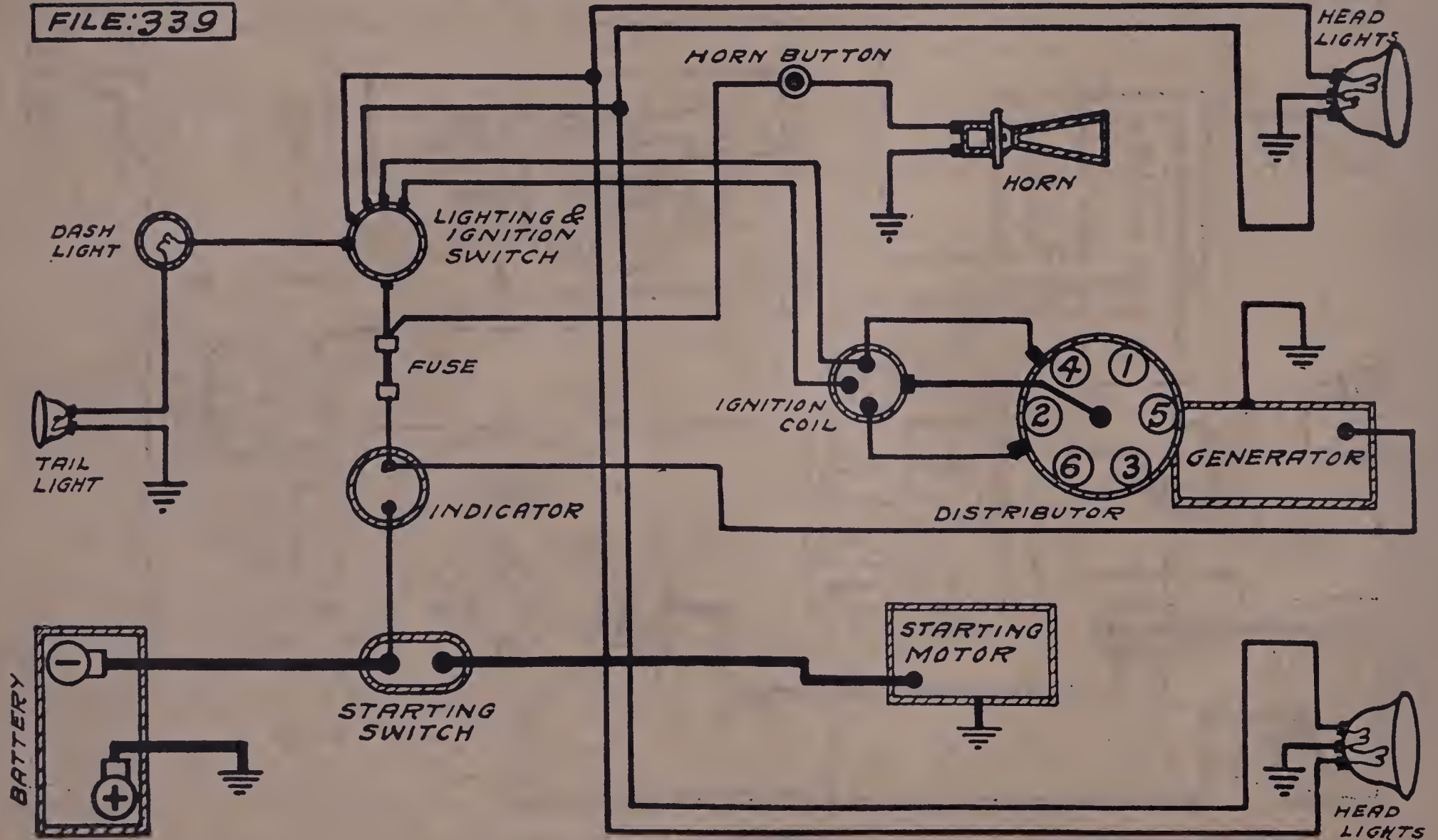
AMERICAN

1917-1918

MODEL -A-

6-VOLT WESTINGHOUSE SYSTEM

FILE:339



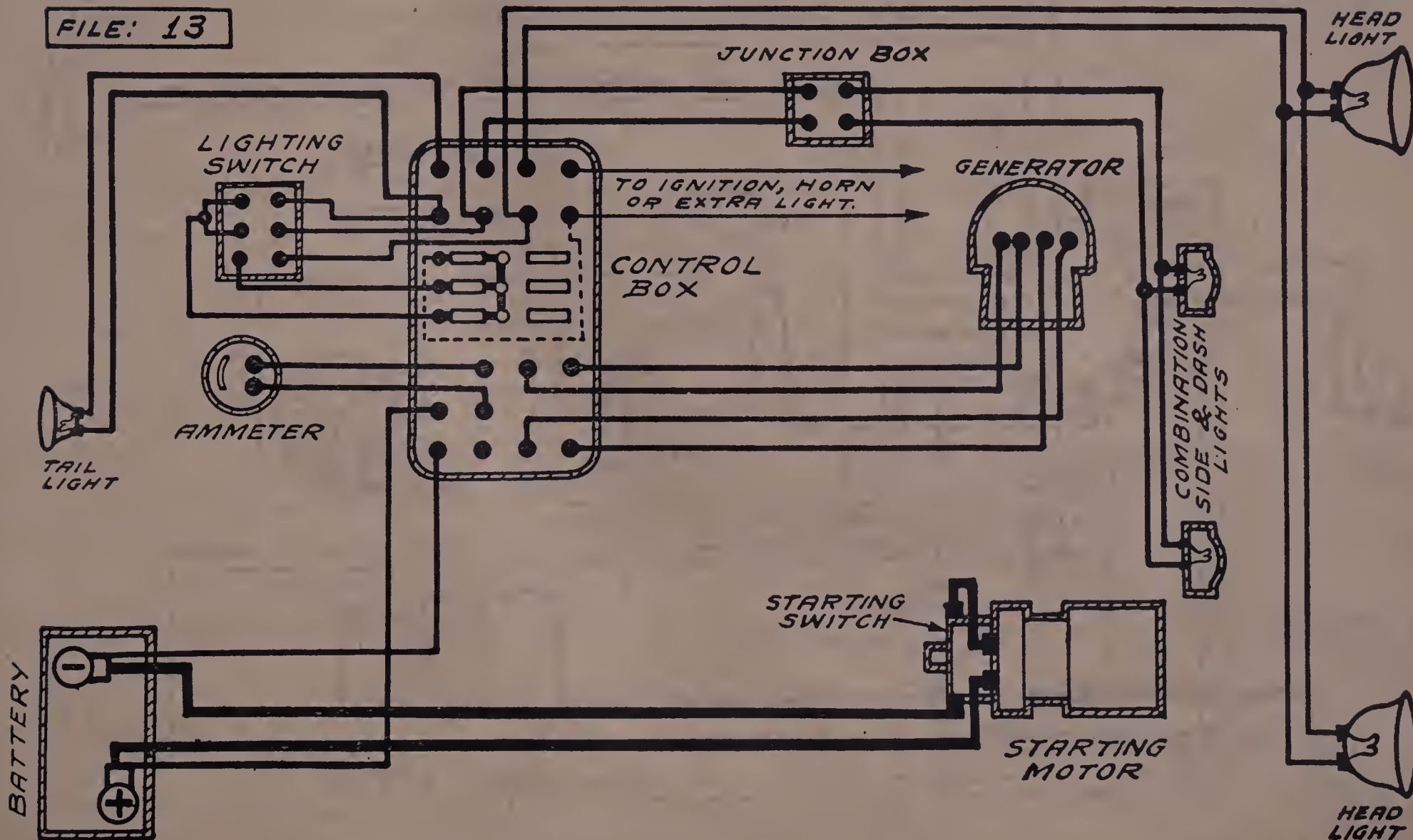
APPERSON

1913

MODEL 4-45 & 4-55

6-VOLT ESTERLINE SYSTEM

FILE: 13



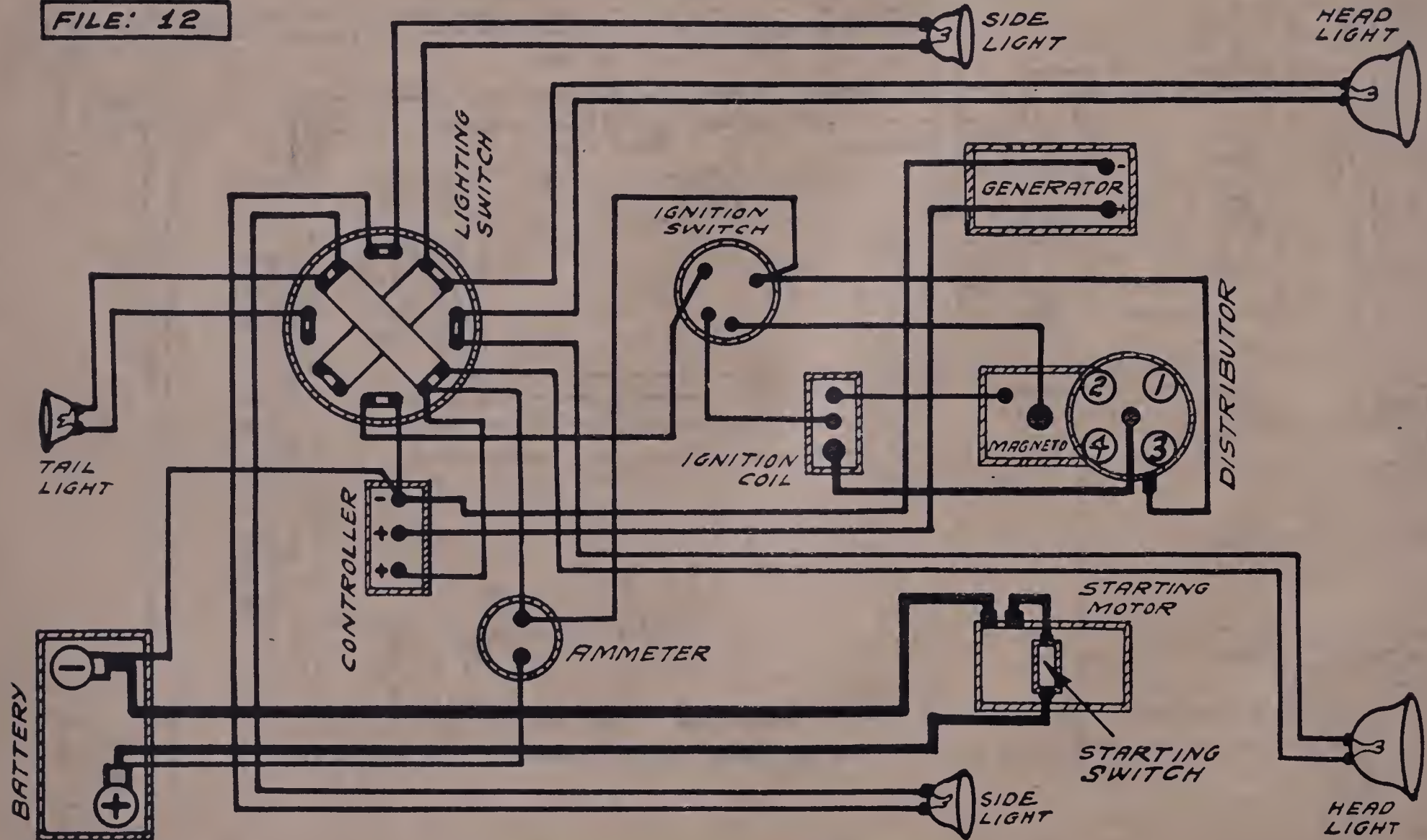
APPERSON

1913

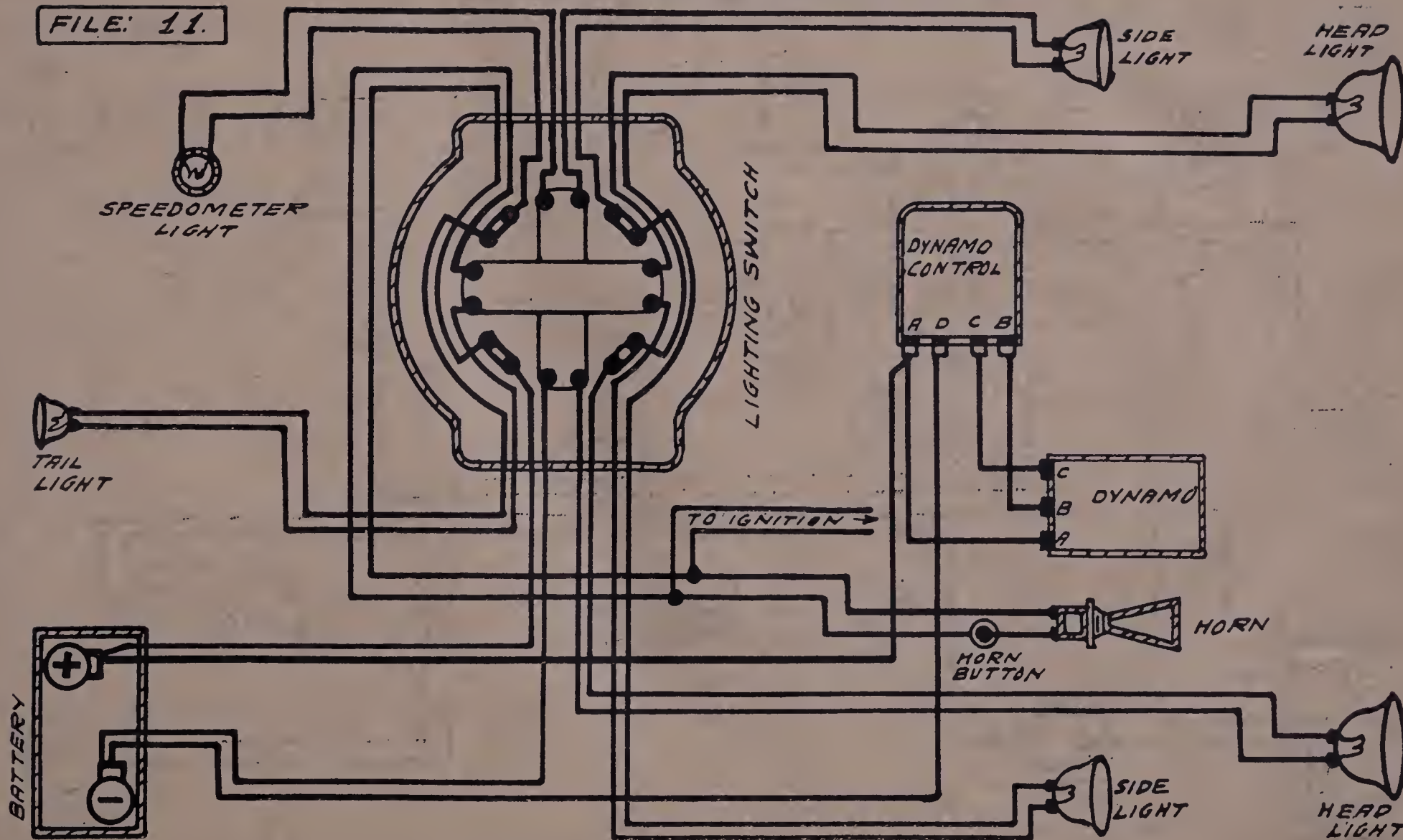
MODEL -45- & 55

6-VOLT GRAY & DAVIS SYSTEM

FILE: 12



APPERSON 1913 MODEL 6-VOLT WARD-LEONARD SYSTEM



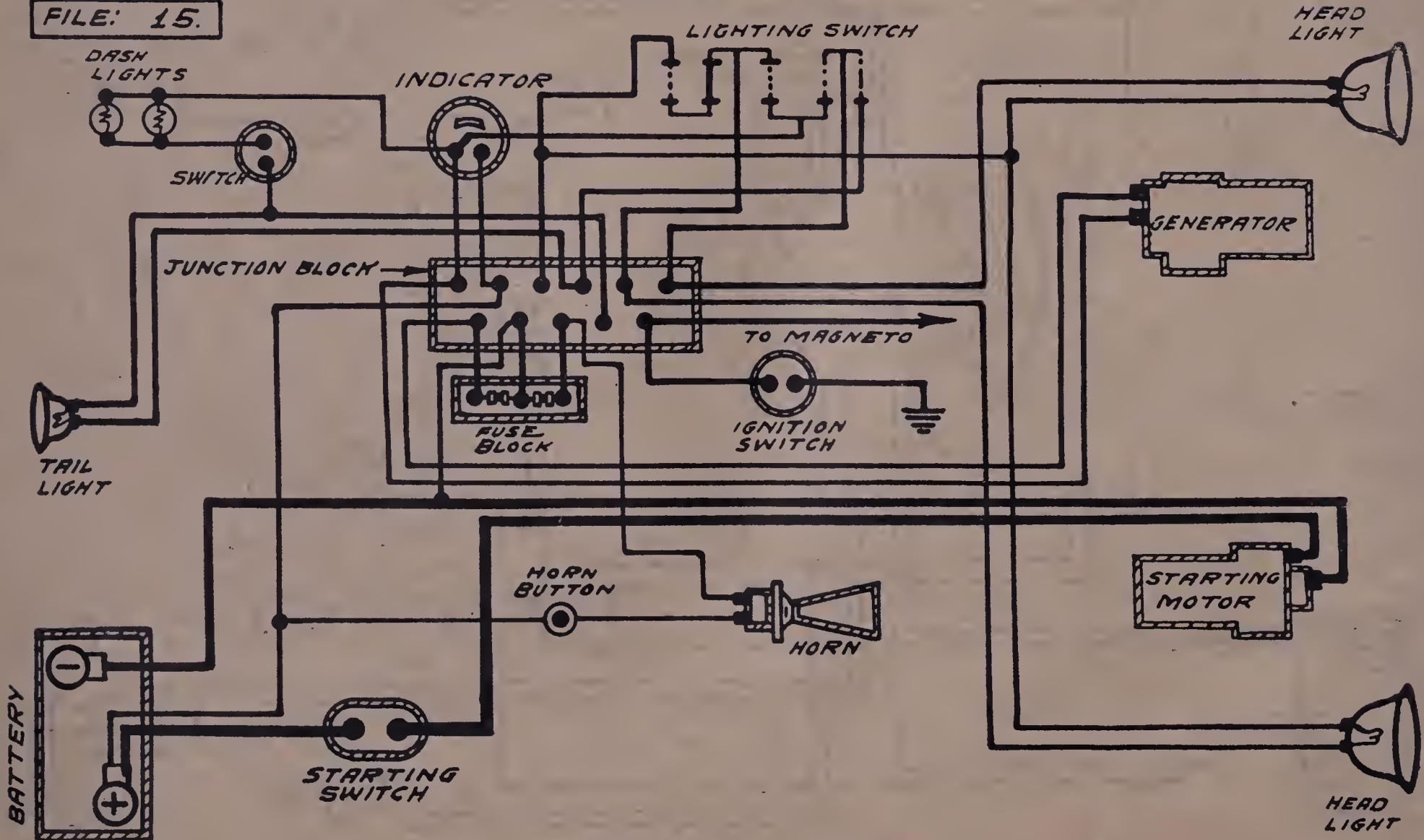
1914

APPERSON MODEL 4-45 6-VOLT BIJUR SYSTEM

6-45

6-58

FILE: 15.

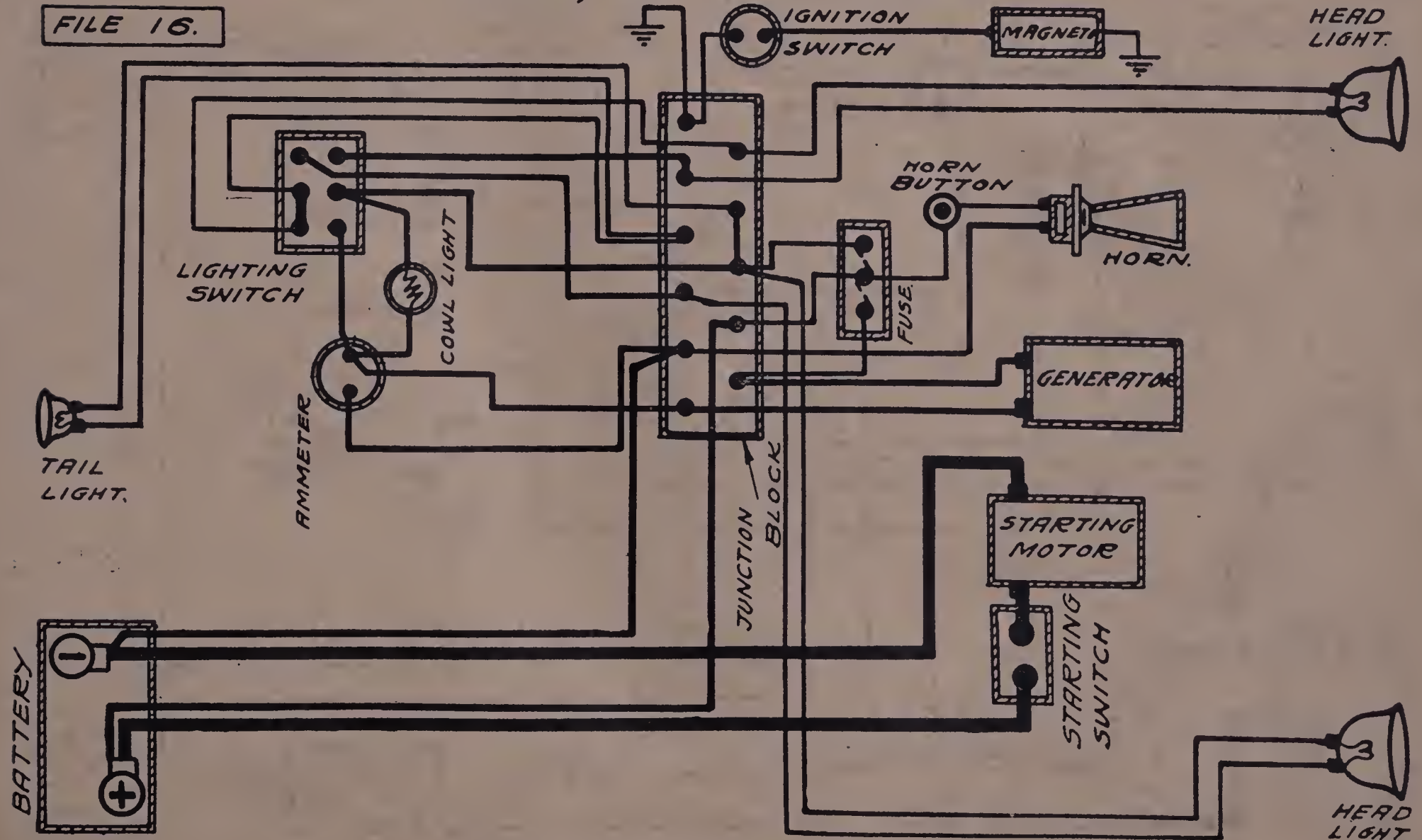


APPERSON

1915.

MODELS 4-40, 6-45, 6-48

6-VOLT, BITUR SYSTEM.

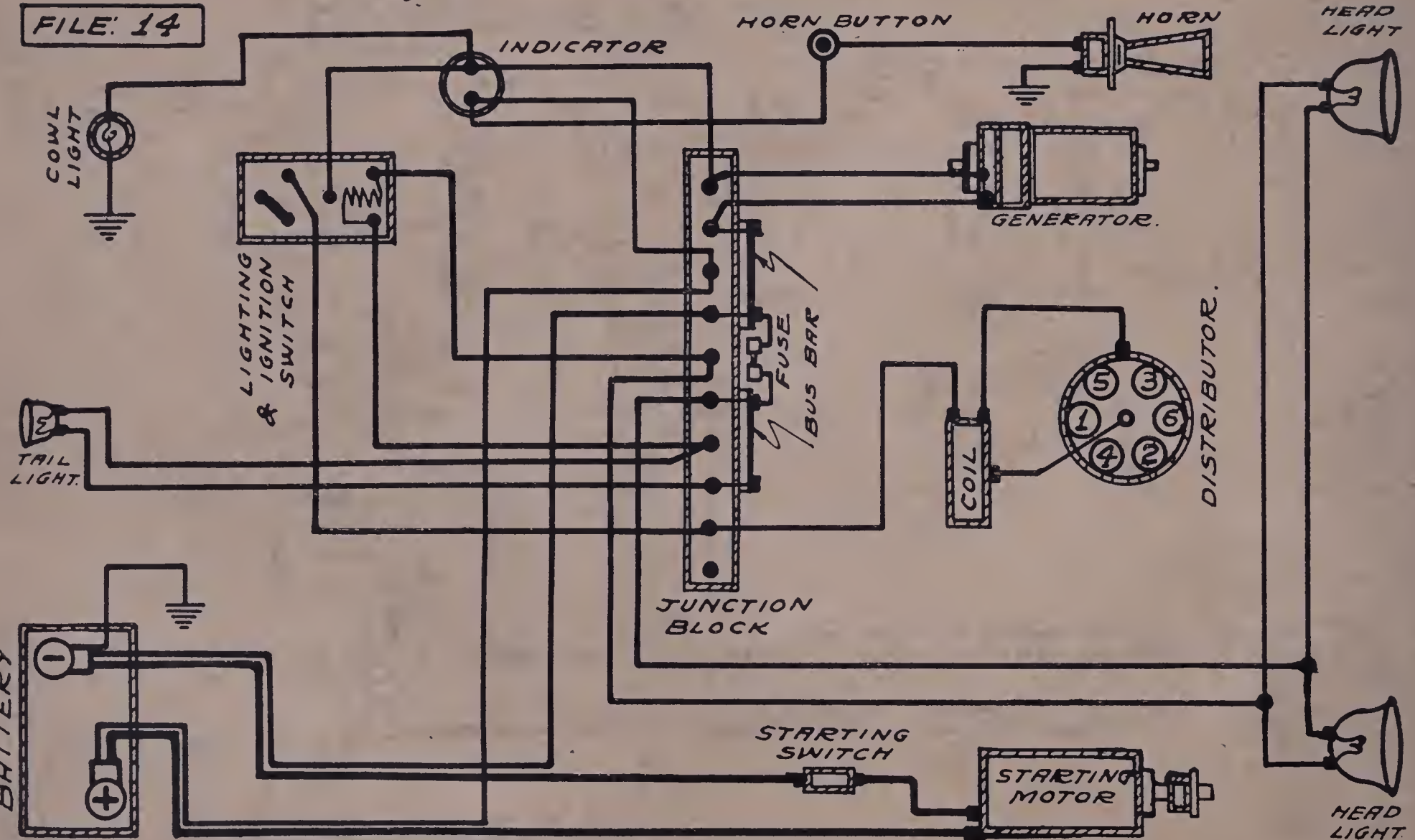


APPERSON

1916.

MODEL 6-48

6-VOLT, BIJUR SYSTEM - DELCO IGNITION.



APPERSON

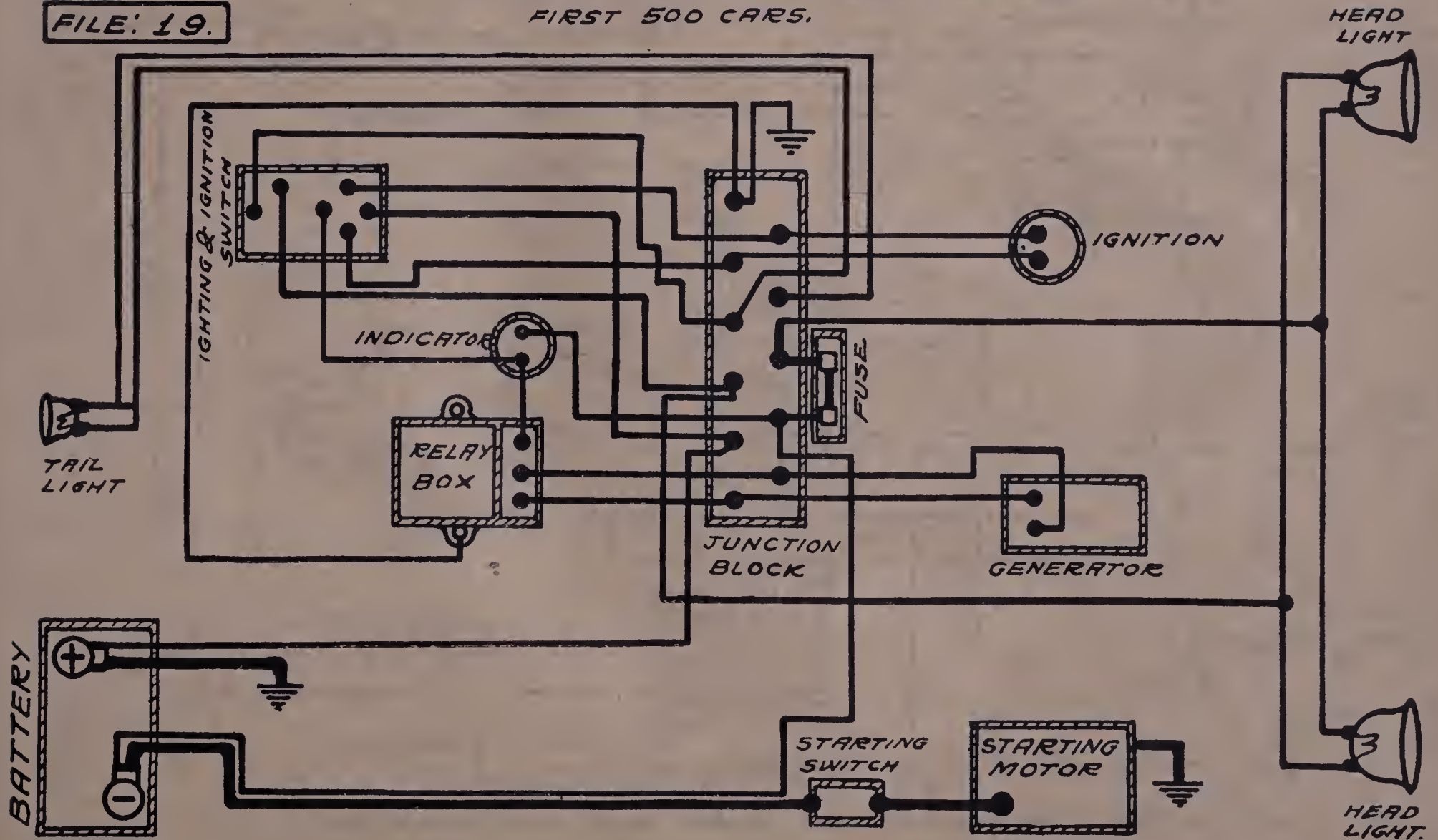
1916.

MODELS, 6-48, 8-58.

6-VOLT, WESTINGHOUSE SYSTEM.

FIRST 500 CARS.

FILE: 19.

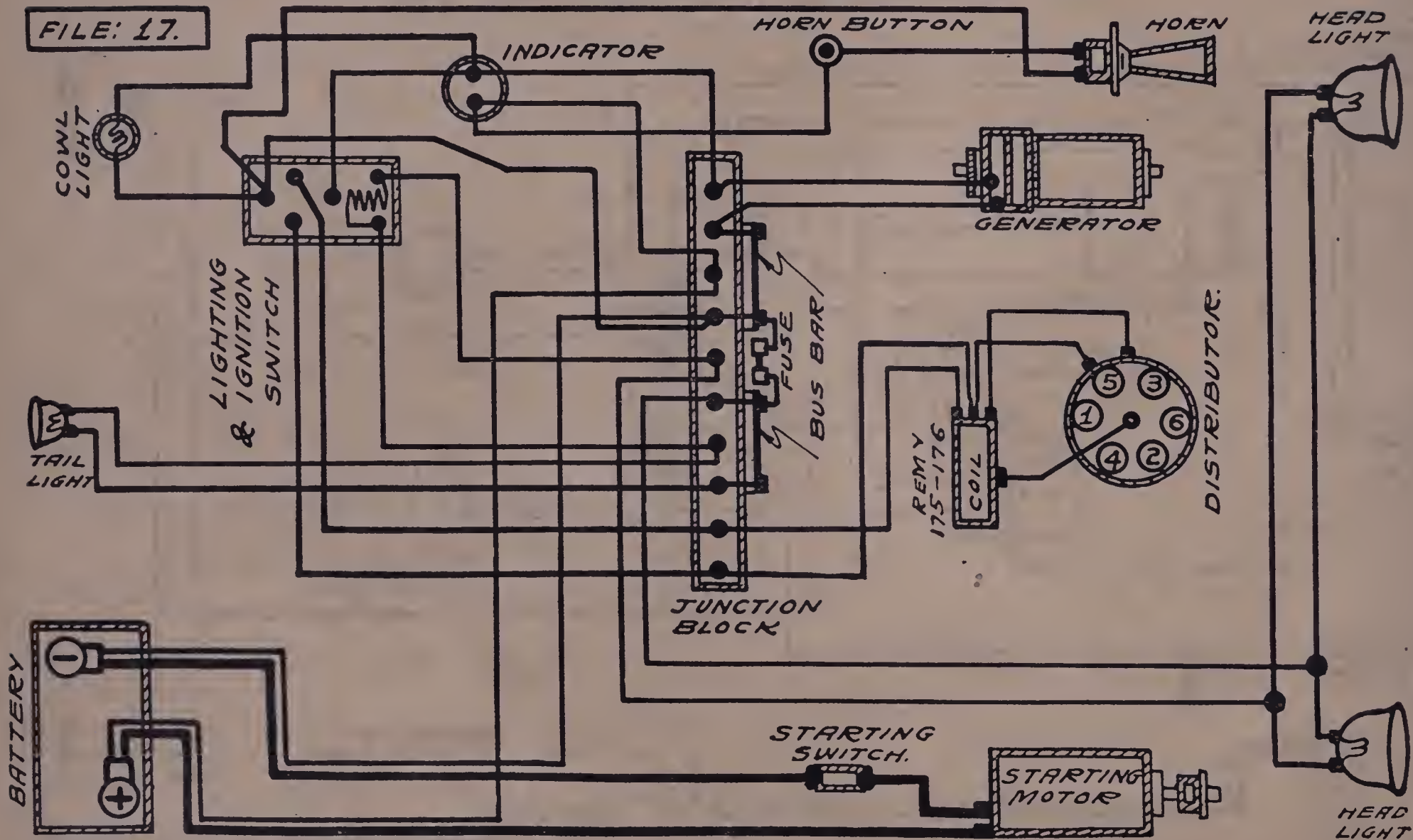


APPERSON

1916 - MODELS 6-48, 8-58.

1917 - MODELS 6-17, 8-17.

6-VOLT, BIJUR SYSTEM — REMY IGNITION.



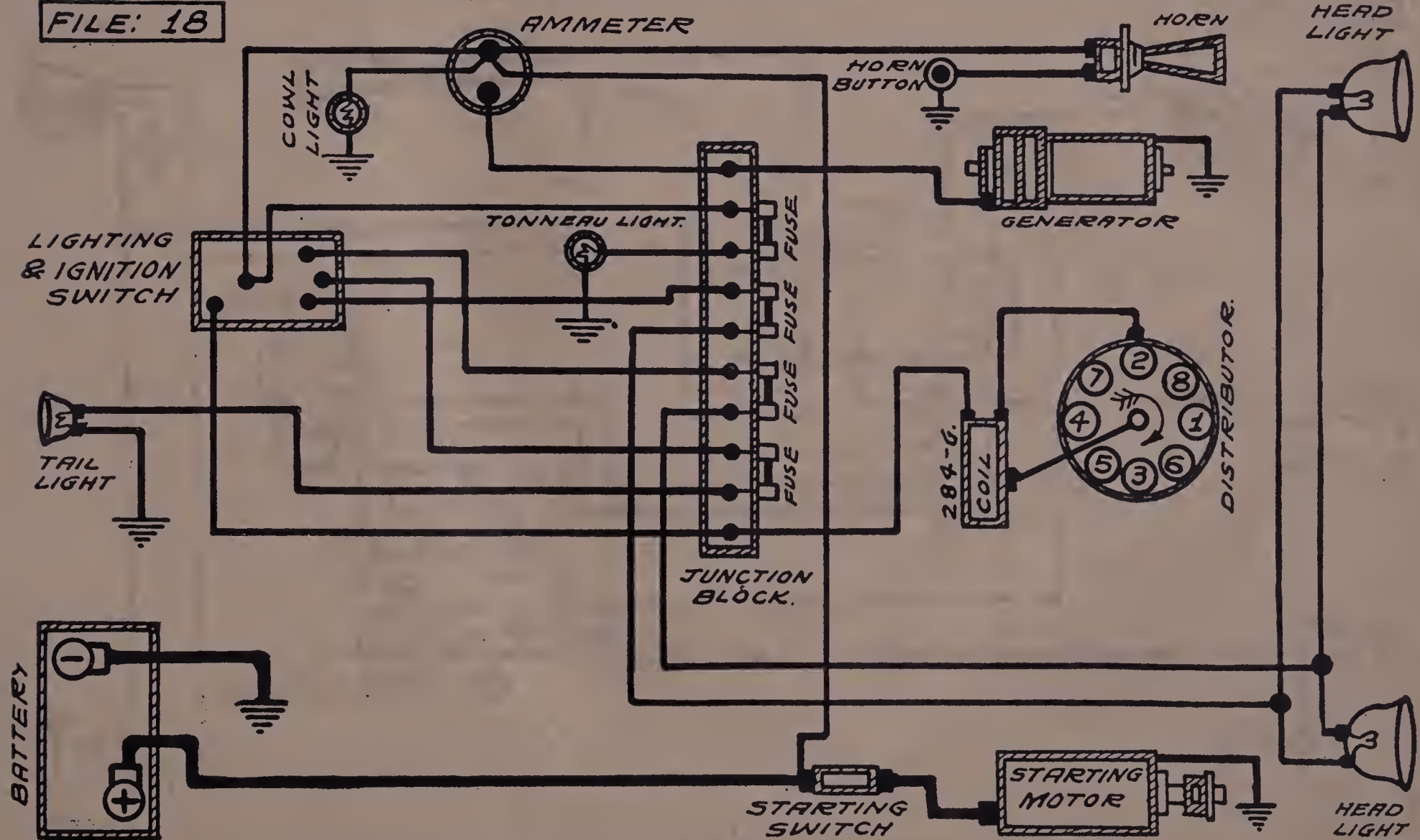
APPERSON

1918,-1919,-1920.

MODEL 8-18-A, 8-19.

6-VOLT, BIJUR SYSTEM -- REMY IGNITION

FILE: 18



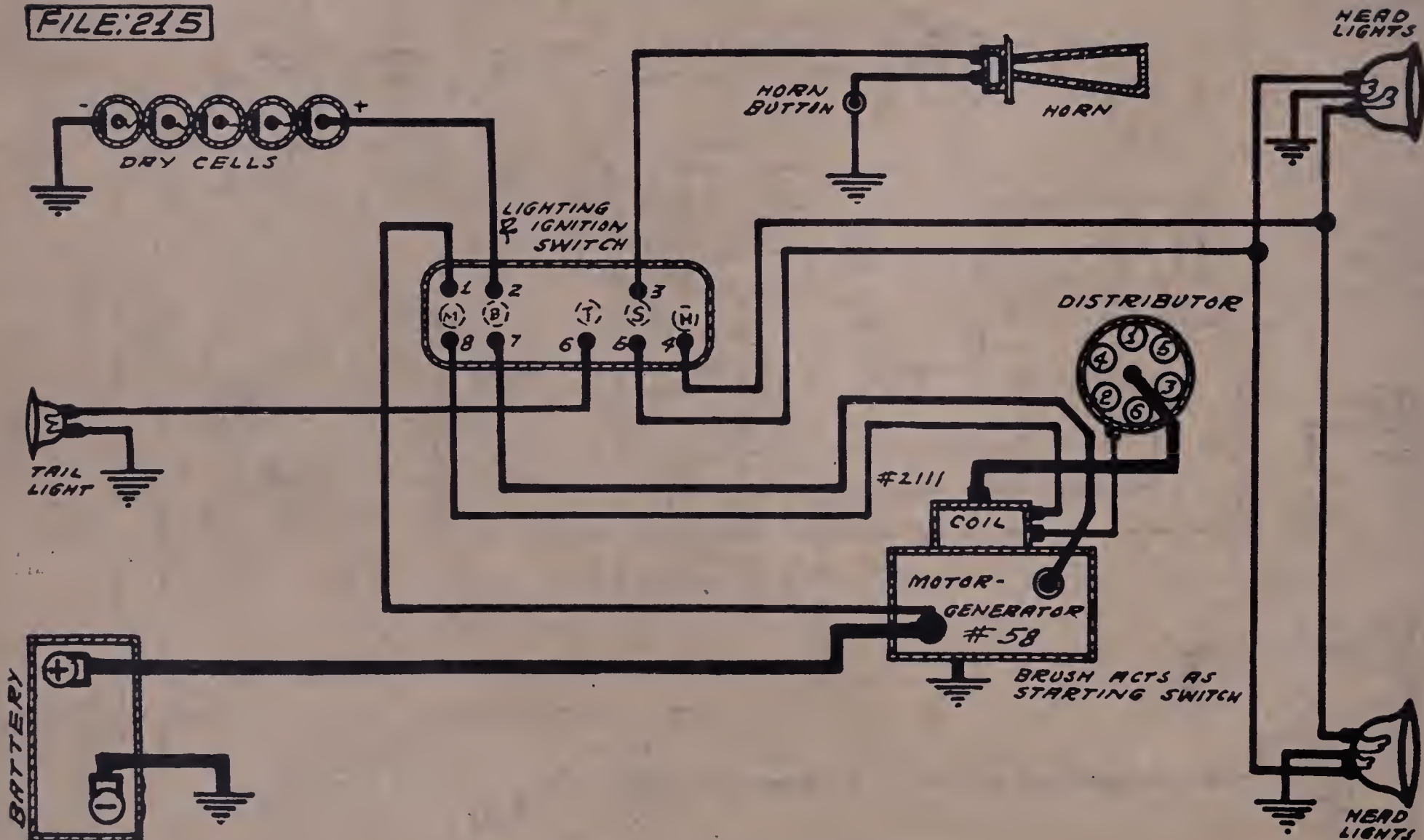
AUBURN

1915

MODEL 6-40.

6-VOLT, - DELCO SYSTEM

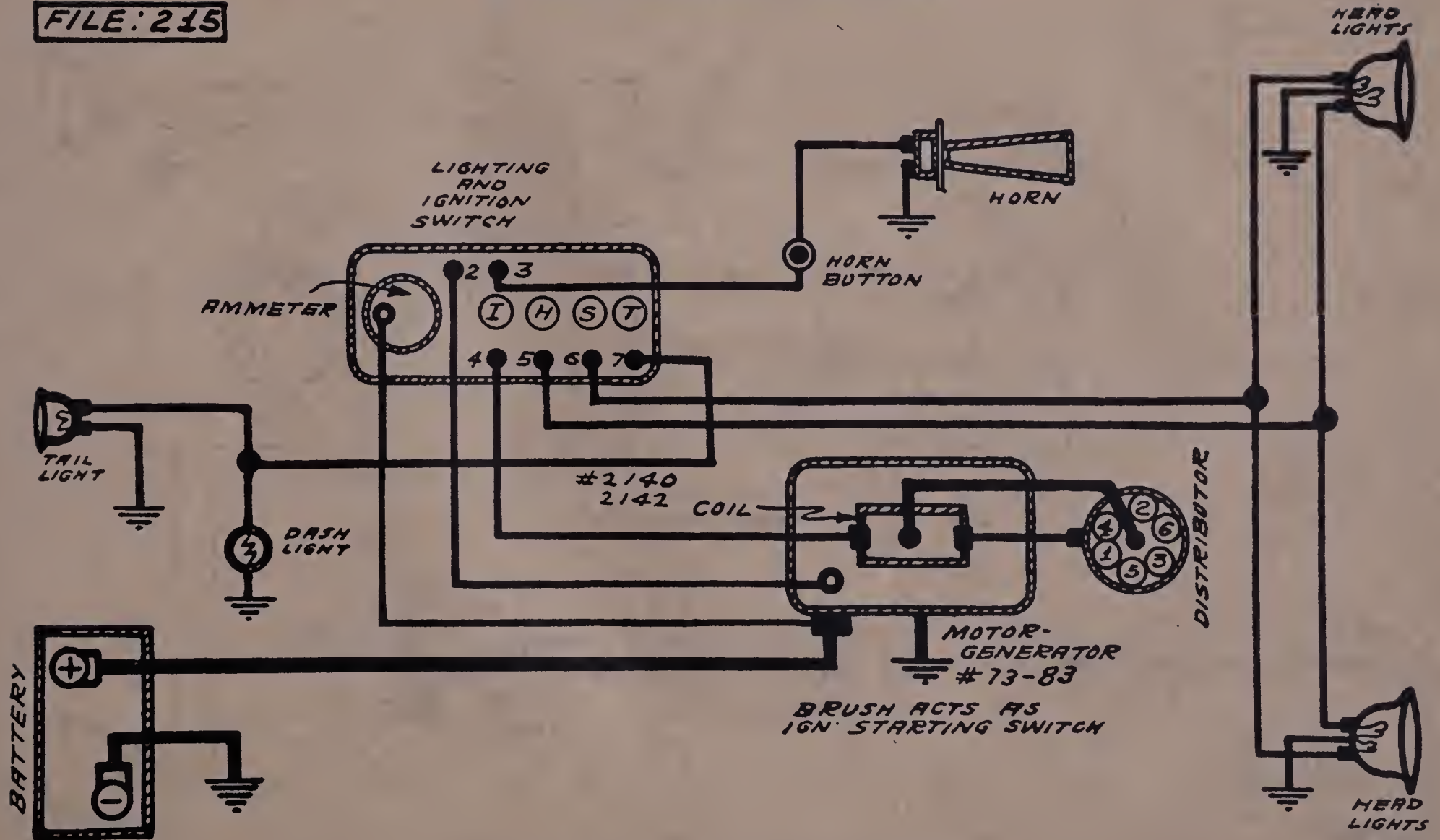
FILE:215



AUBURN

1916.-MODEL 6-40A. 1917-1918-MODEL-6-44
6-VOLT, DELCO SYSTEM.

FILE: 215



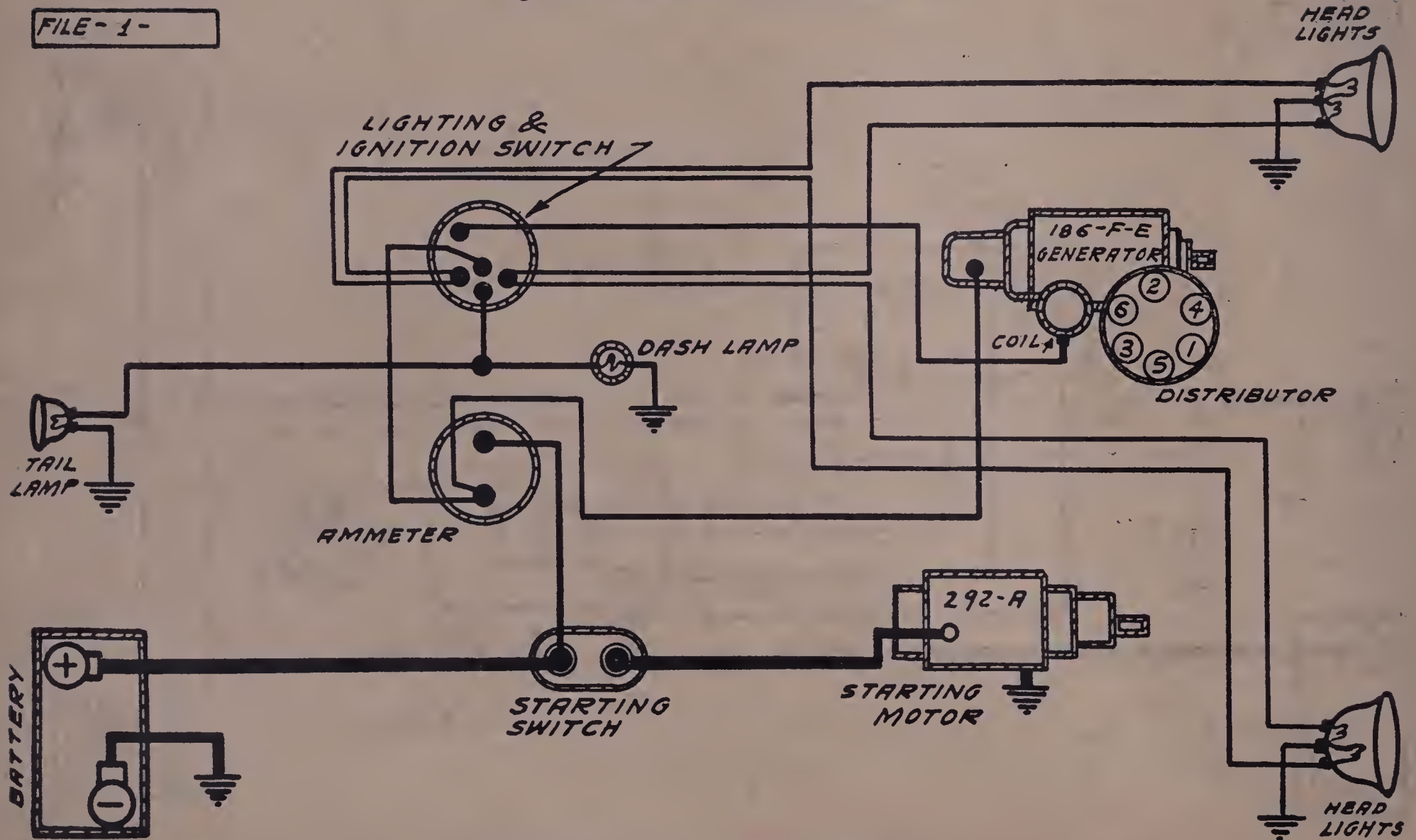
AUBURN

1917-8-9.

MODEL 6-39 H & K

6 VOLT REMY SYSTEM

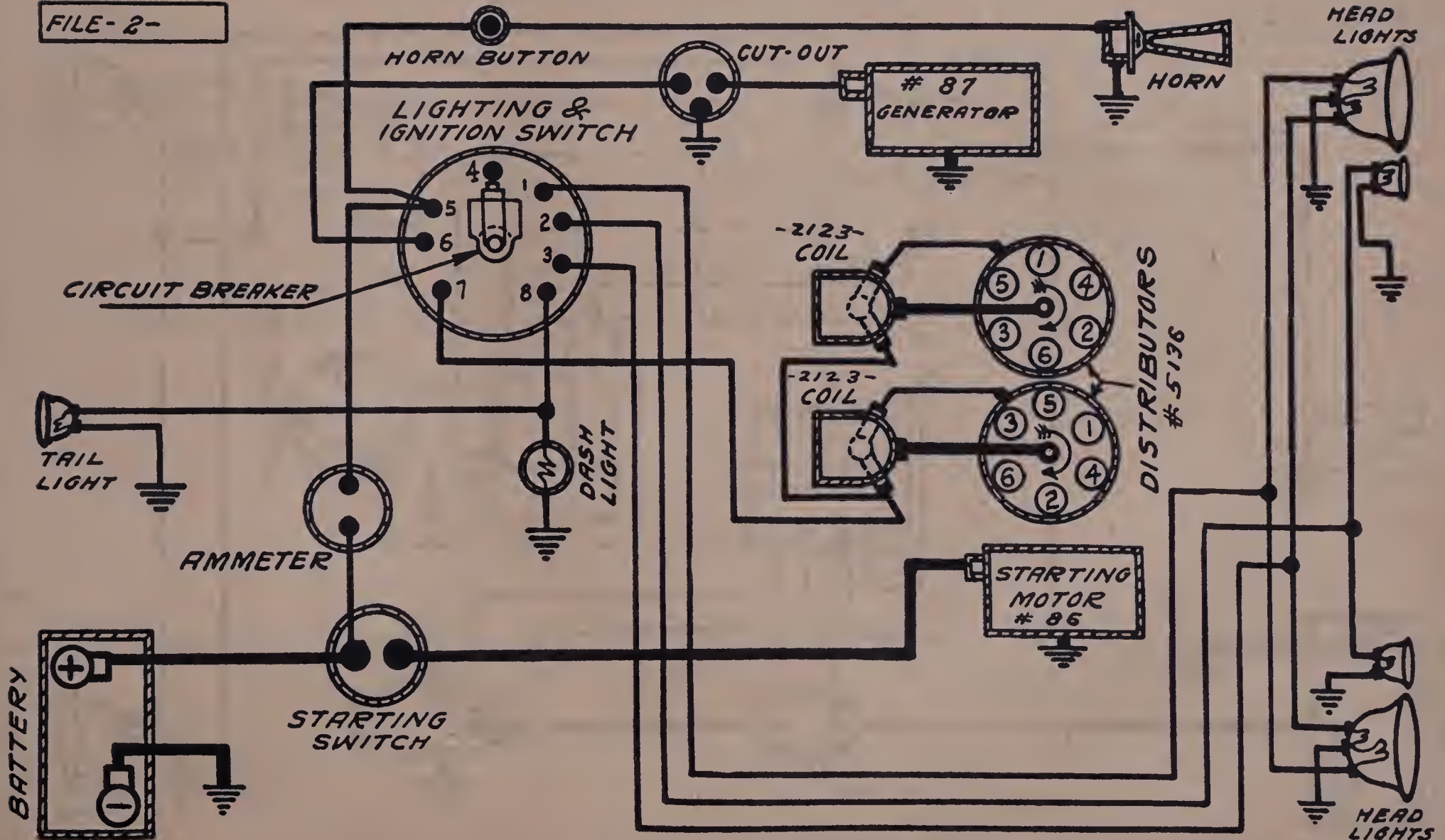
FILE-1-



AUSTIN

1917-1918 TWELVE CYLINDER MODEL
6-VOLT DELCO SYSTEM

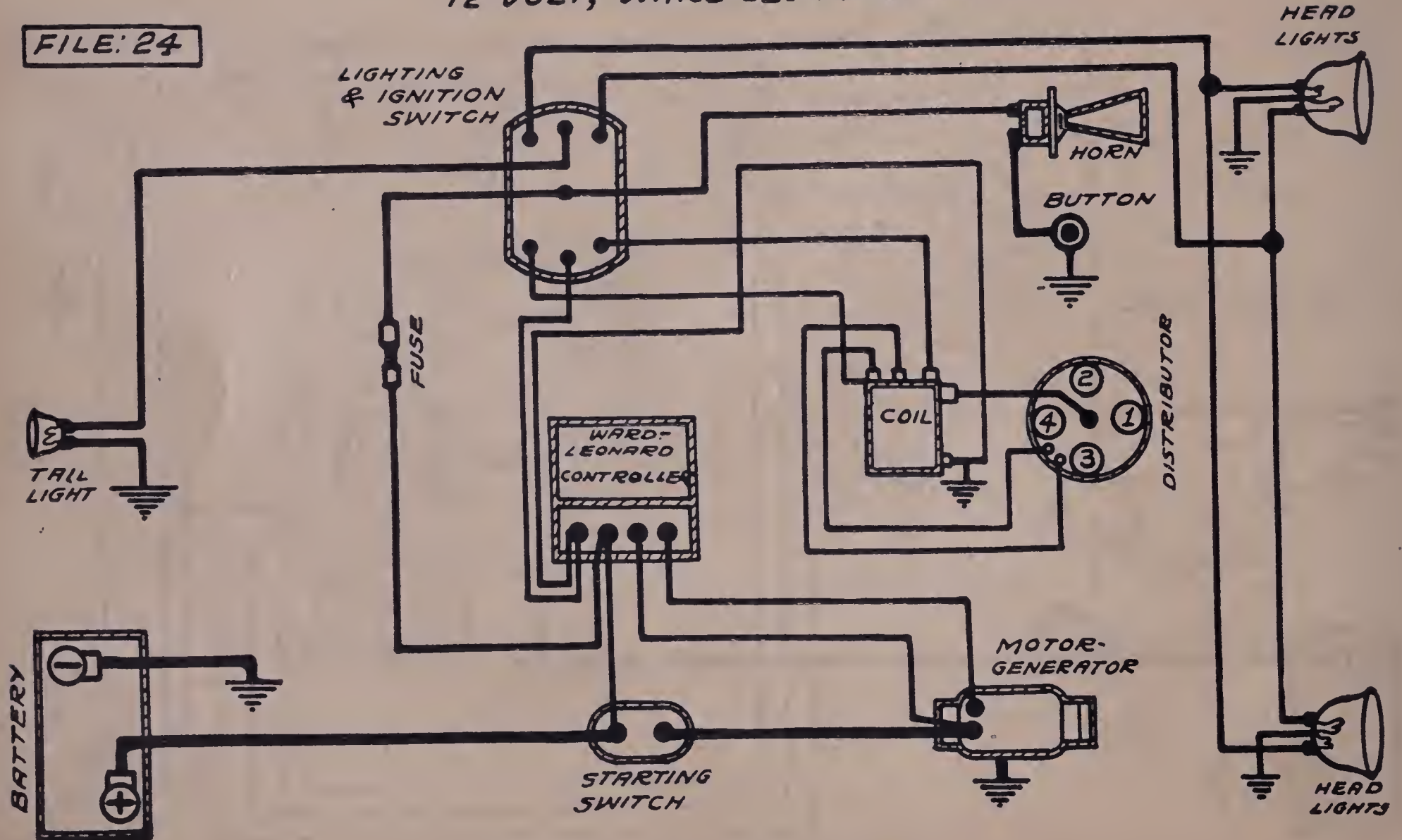
FILE-2-



BELL

12-VOLT, WARD-LEONARD SYSTEM.

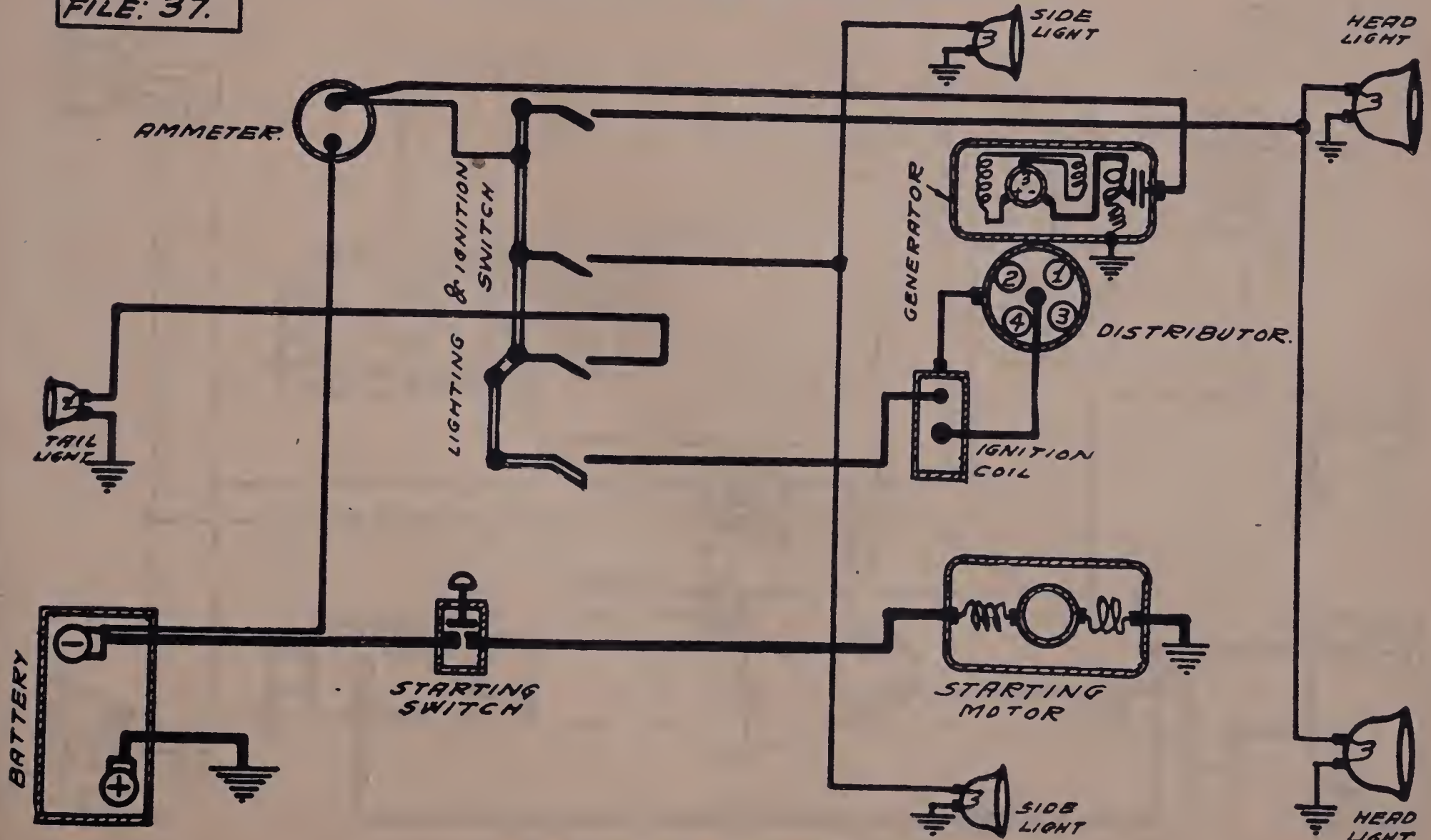
FILE: 24



BETHLEHEM-TRUCK

MODEL D.-1½-TON, MODEL E.-2½-TON, MODEL F.-3½-TON.
6-VOLT, GRAY & DAVIS SYSTEM.

FILE: 37.



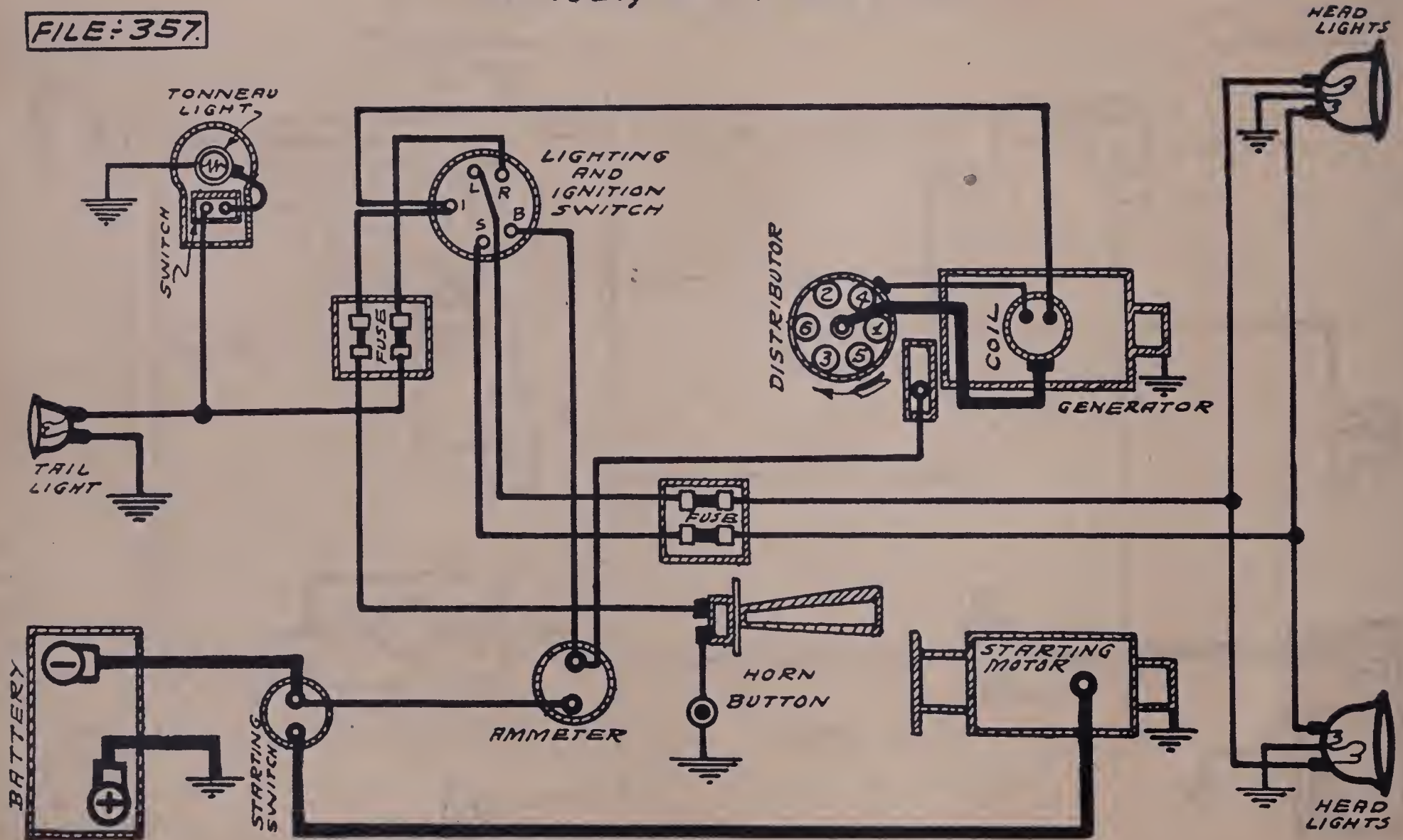
BOUR-DAVIS

1920

MODEL 20.

6-VOLT,-REMY SYSTEM.

FILE: 357.

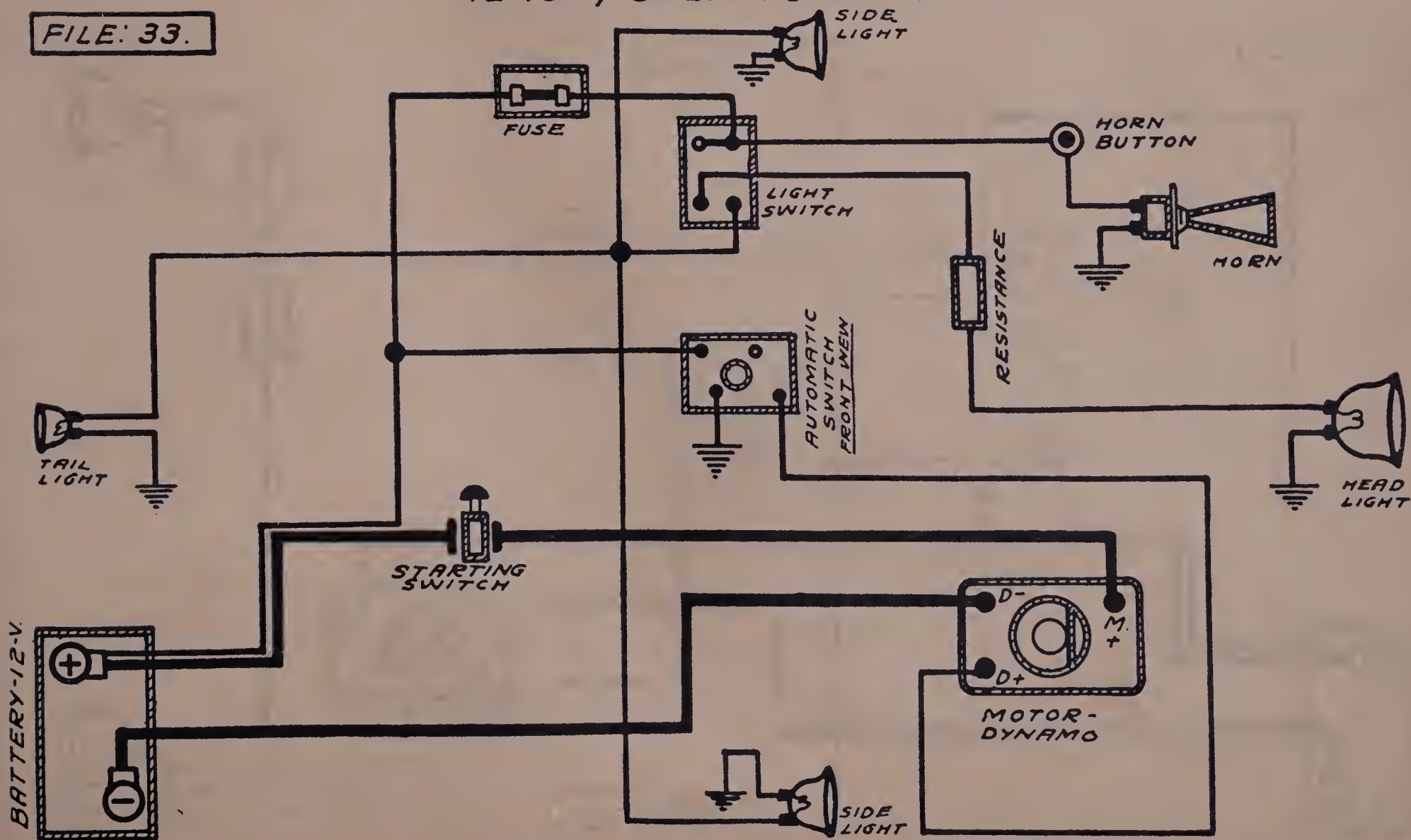


1915

BRISCOE

-SINGLE HEADLIGHT- MODEL B-15.
12-VOLT, SPLITDORF SYSTEM.

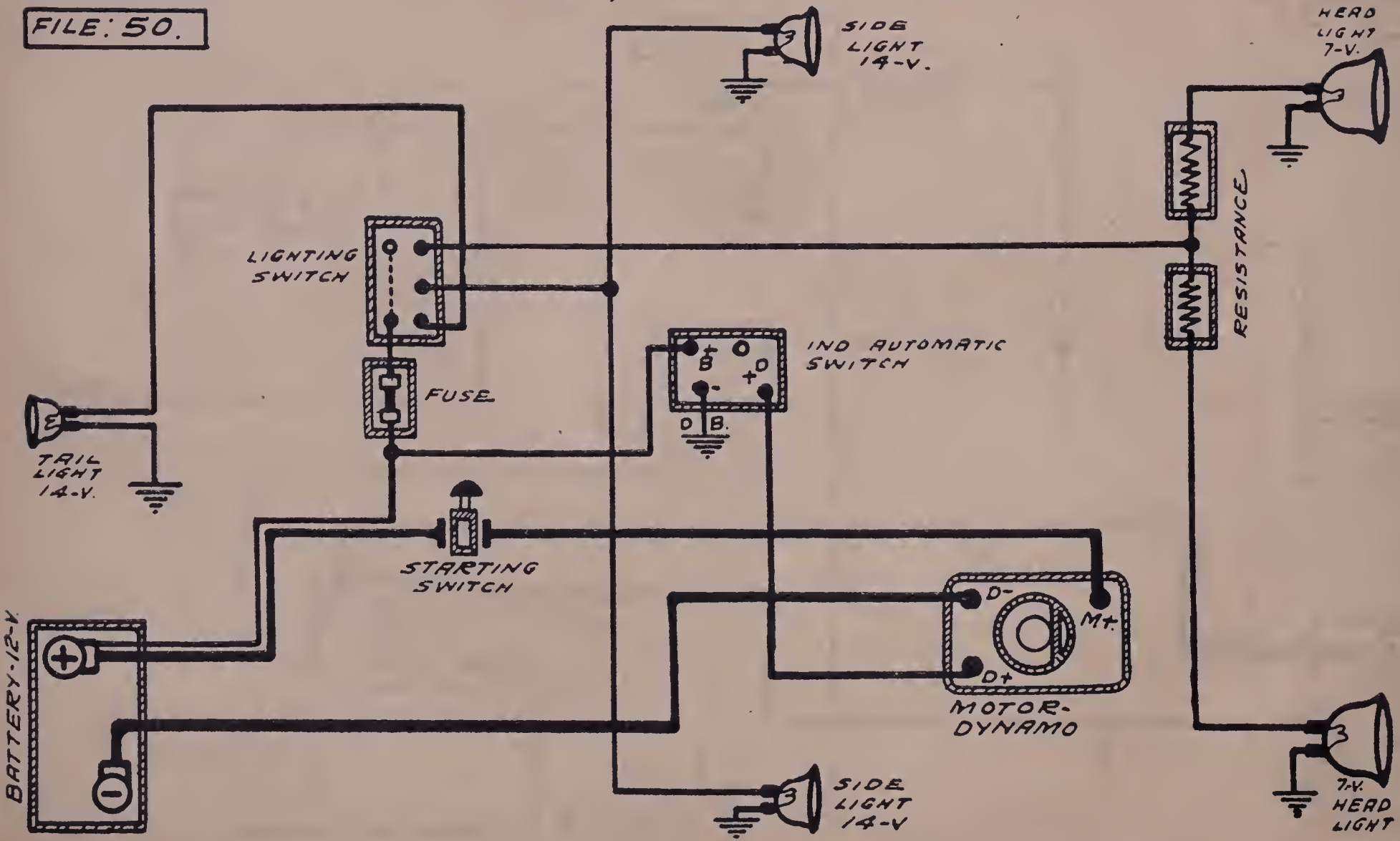
FILE: 33.



BRISCOE

- TWO HEADLIGHTS - MODEL, B-15.
12-VOLT, SPLITDORF SYSTEM.

FILE: 50.



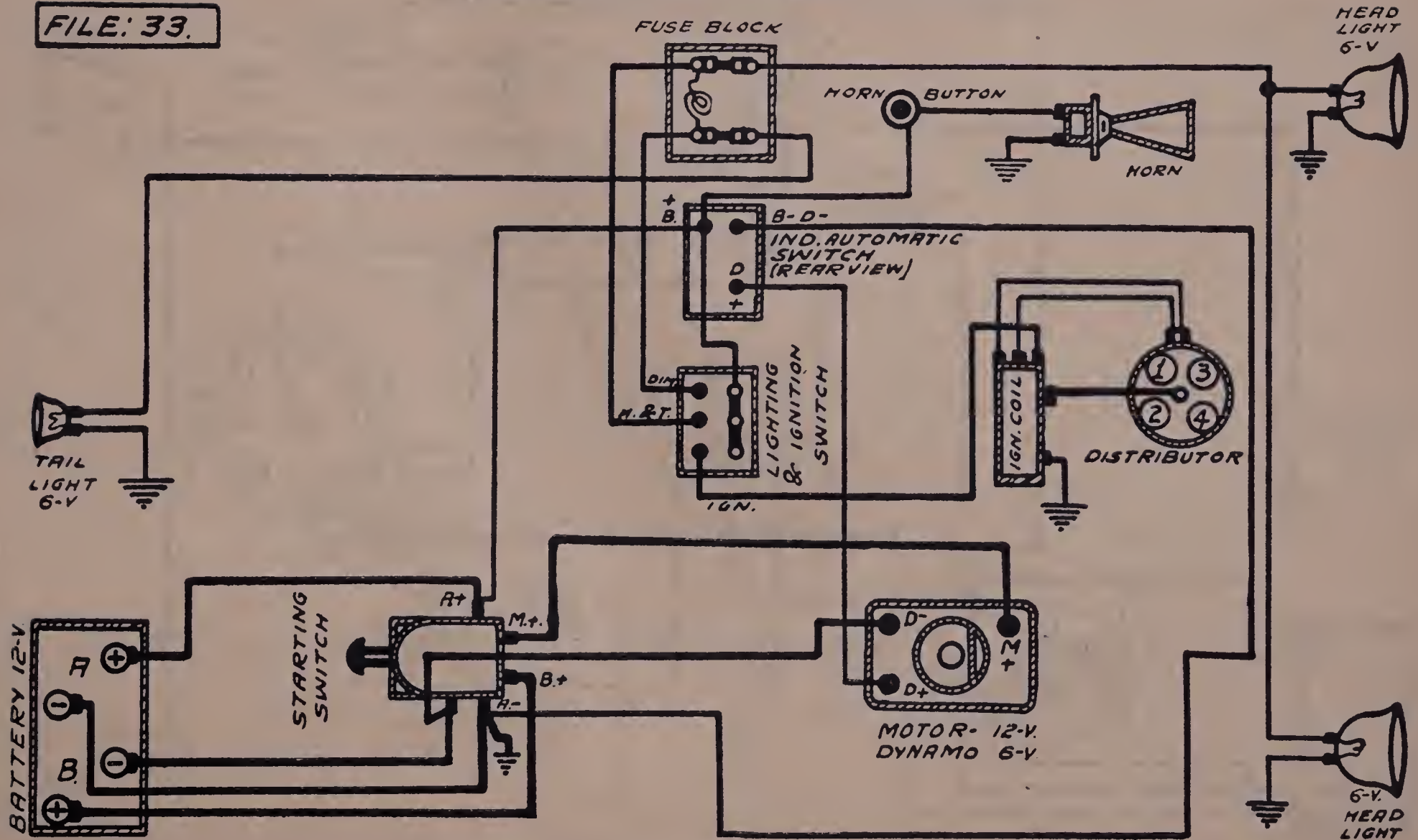
BRISCOE

1916

MODEL 4-38.

12-6-VOLT, SPLITDORF SYSTEM.

FILE: 33.



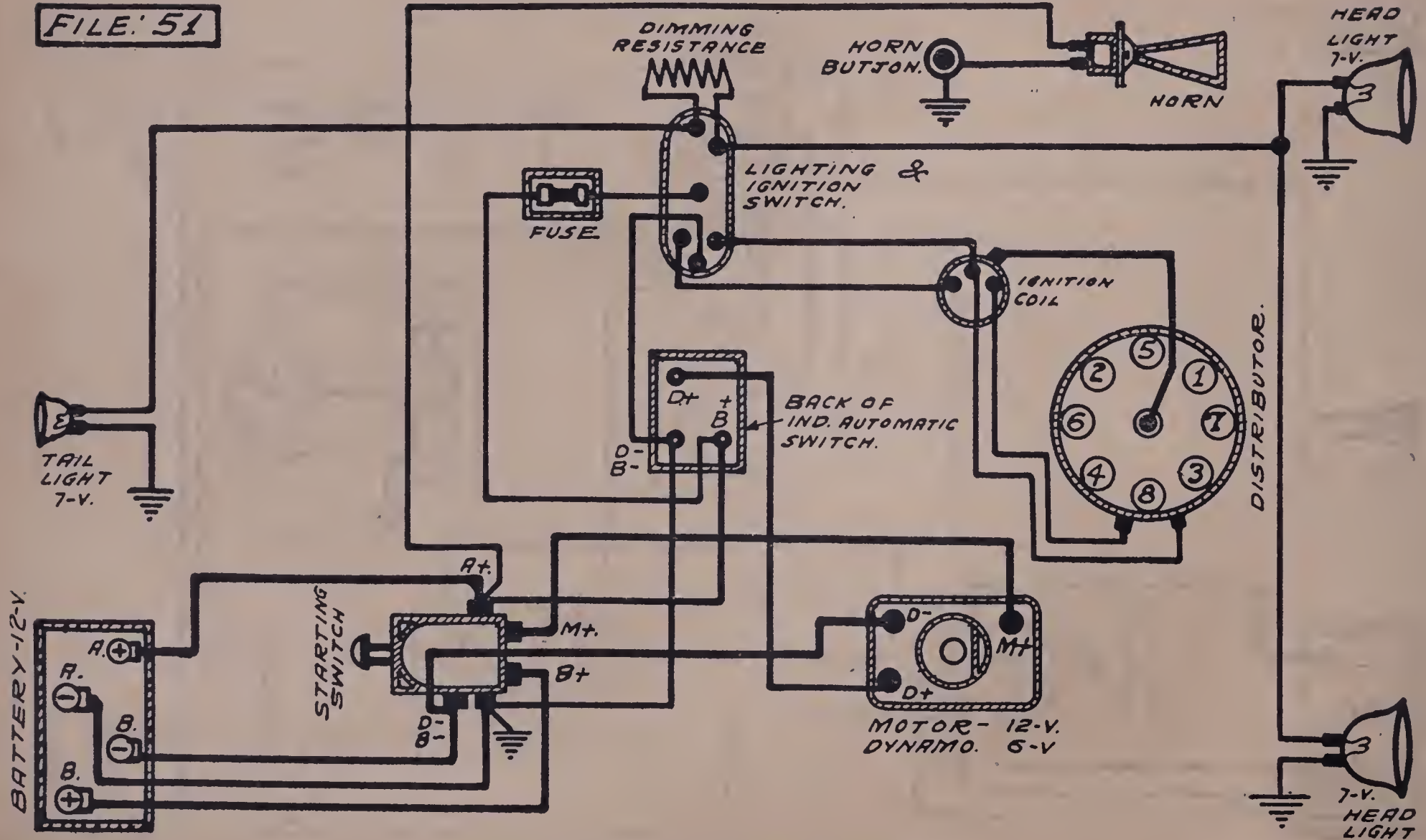
BRISCOE

1916.

MODEL 8-38.

12-6-VOLT, SPLITDORF SYSTEM.

FILE 51



BRISCOE

1916-1917-1918-1919.

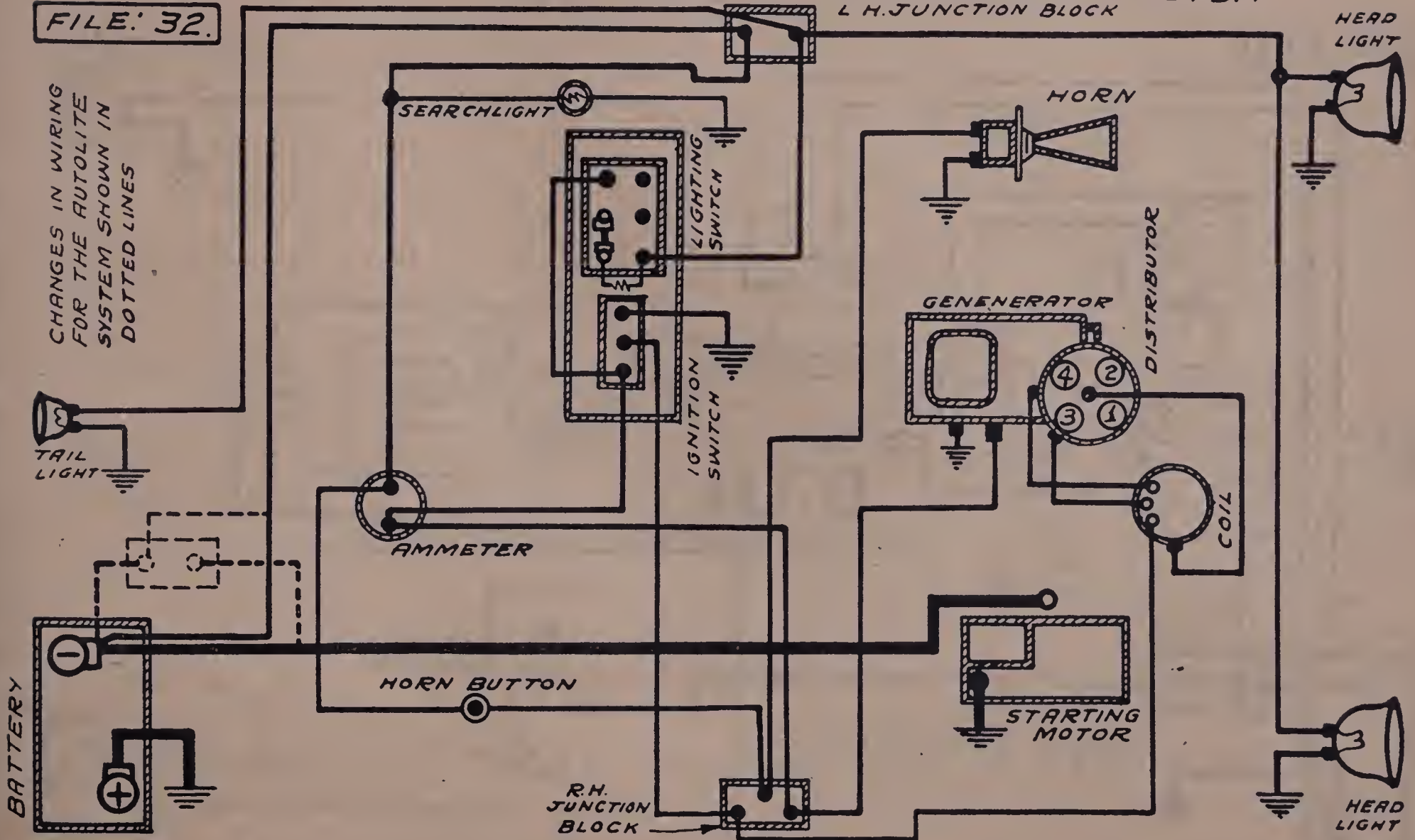
MODEL 4-24

6-VOLT, SPLIT DORF-OR-AUTOLITE SYSTEM

L.H. JUNCTION BLOCK

FILE: 32.

CHANGES IN WIRING
FOR THE AUTOLITE
SYSTEM SHOWN IN
DOTTED LINES



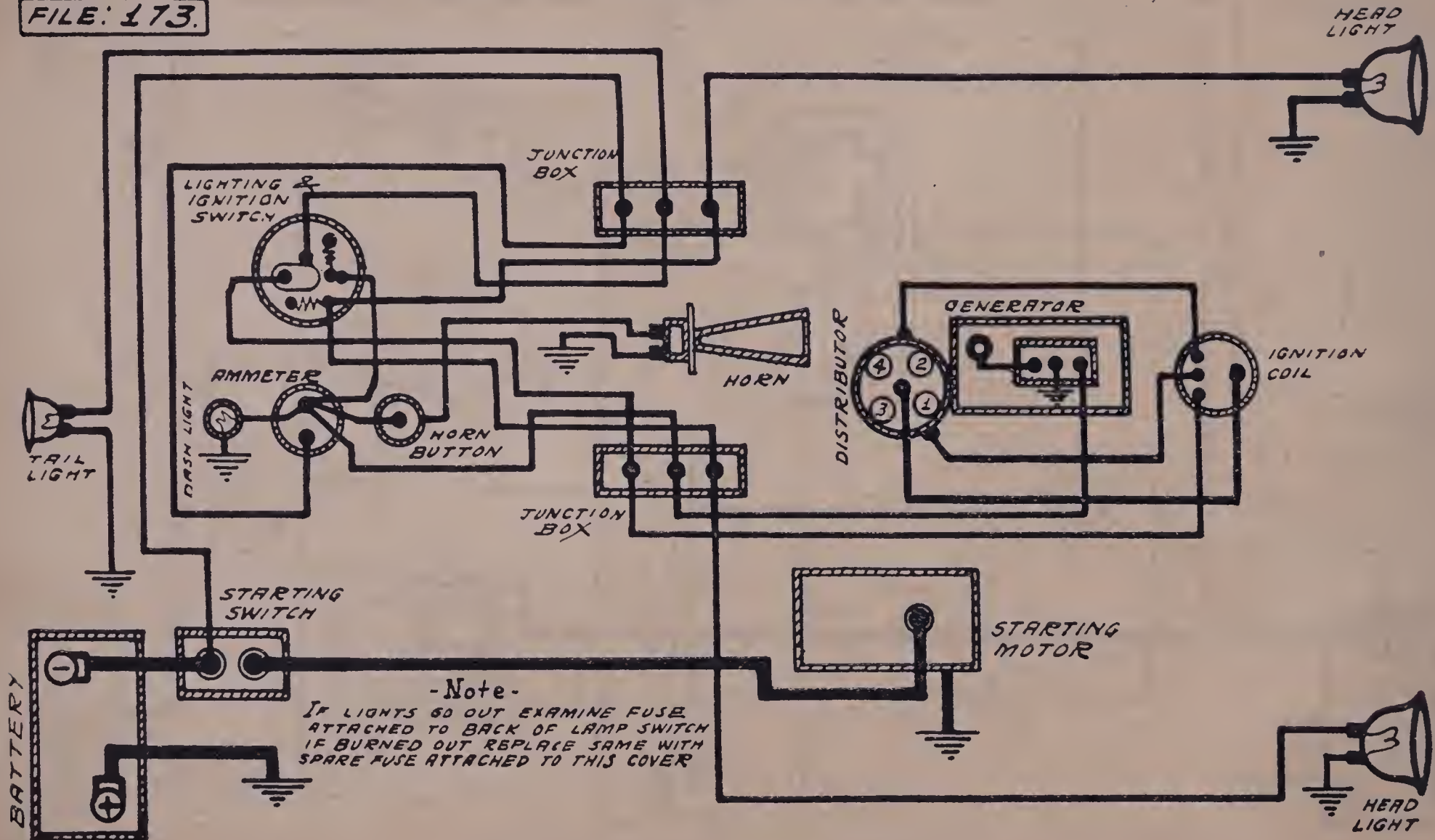
BRISCOE

1920

MODEL 34

6-VOLT, -AUTOLITE SYSTEM.

FILE: 173.

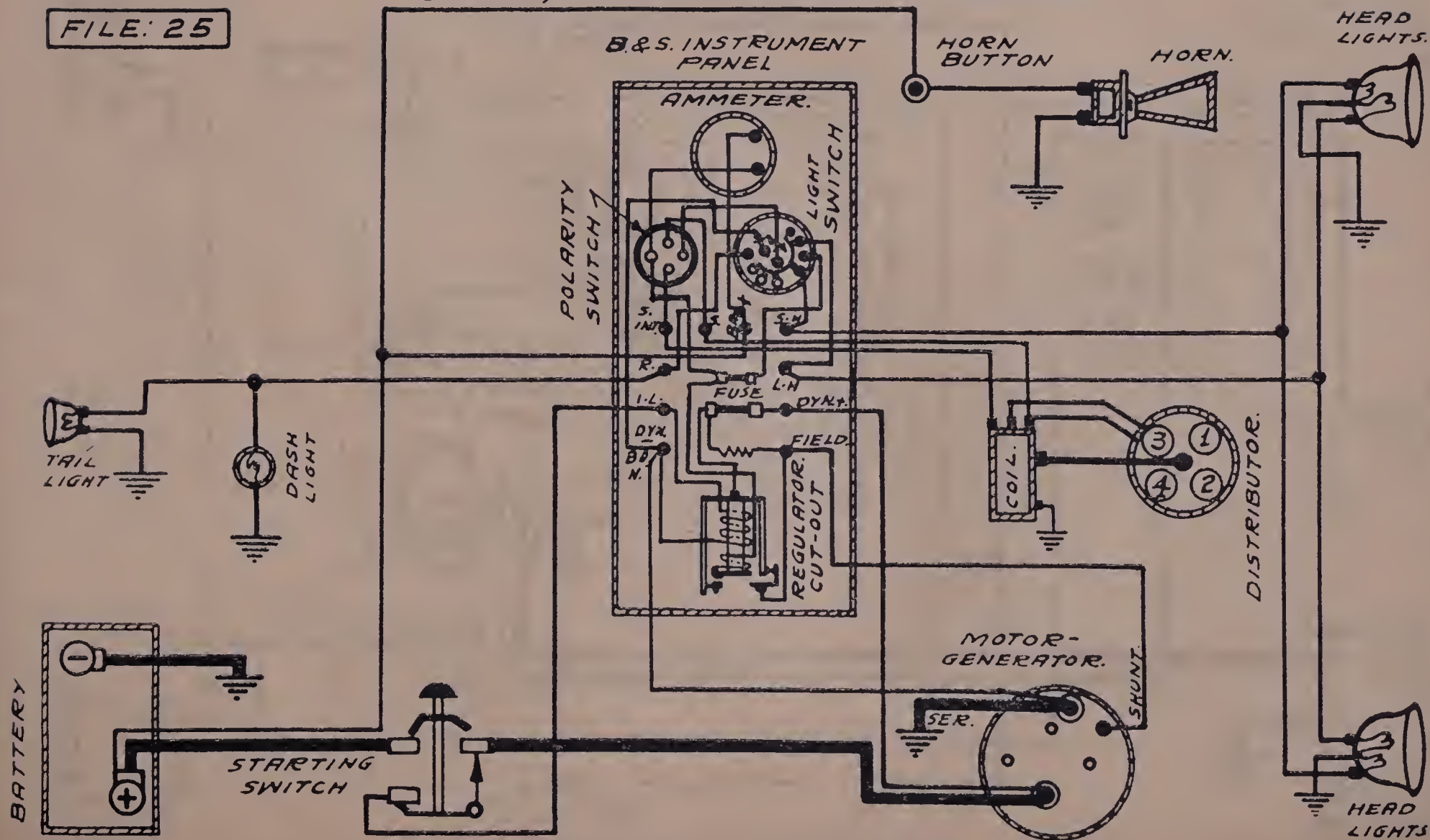


BROWN

1916

6-VOLT, ALLIS-CHALMERS SYSTEM.

FILE: 25

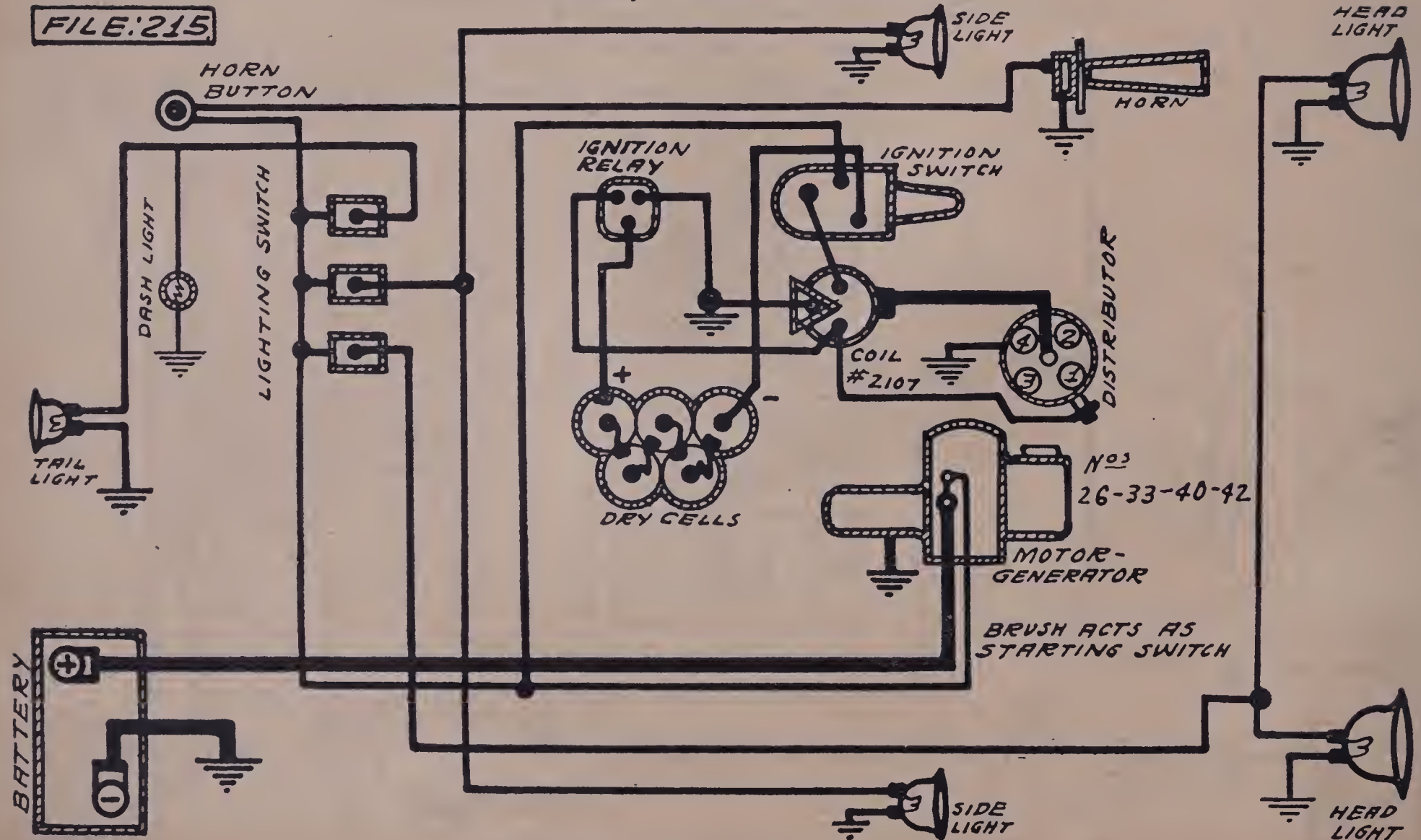


BUICK

1914

MODELS 824-25-36-37.

6-VOLT, - DELCO SYSTEM.

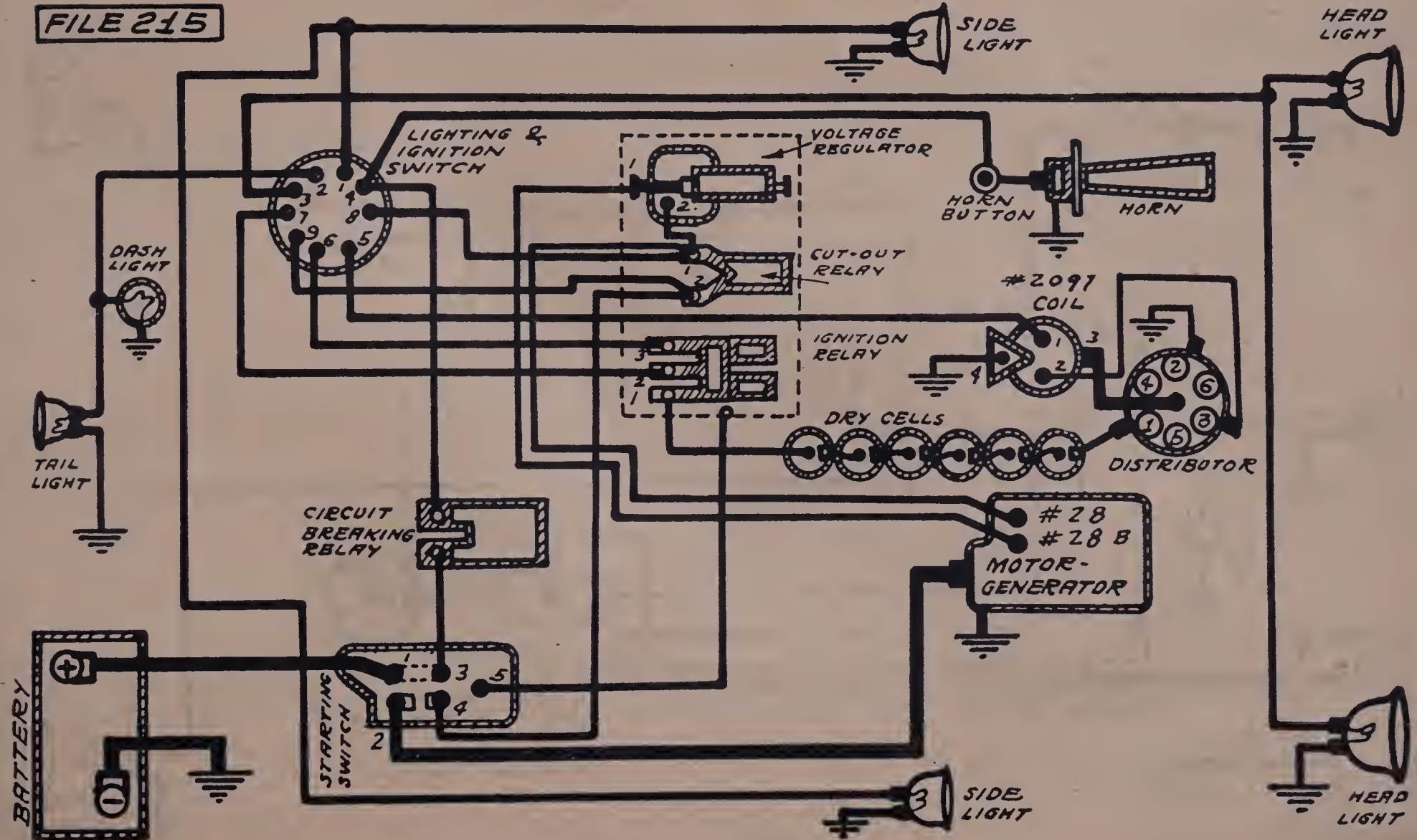


BUICK

1914

MODELS B-54-55

6-VOLT, DELCO SYSTEM.



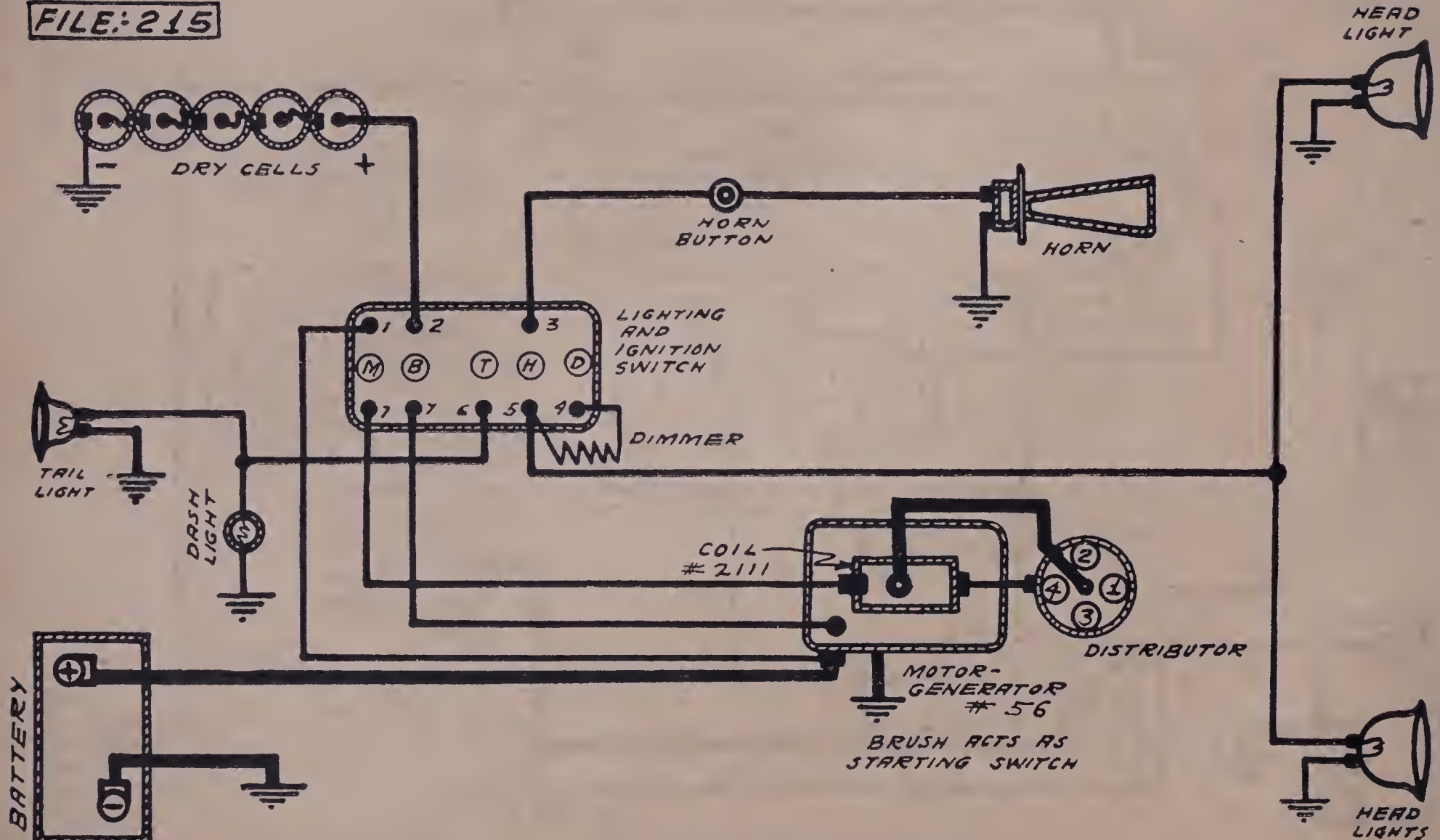
BUICK

1915

MODEL C-24-25

6-VOLT, DELCO SYSTEM.

FILE: 215

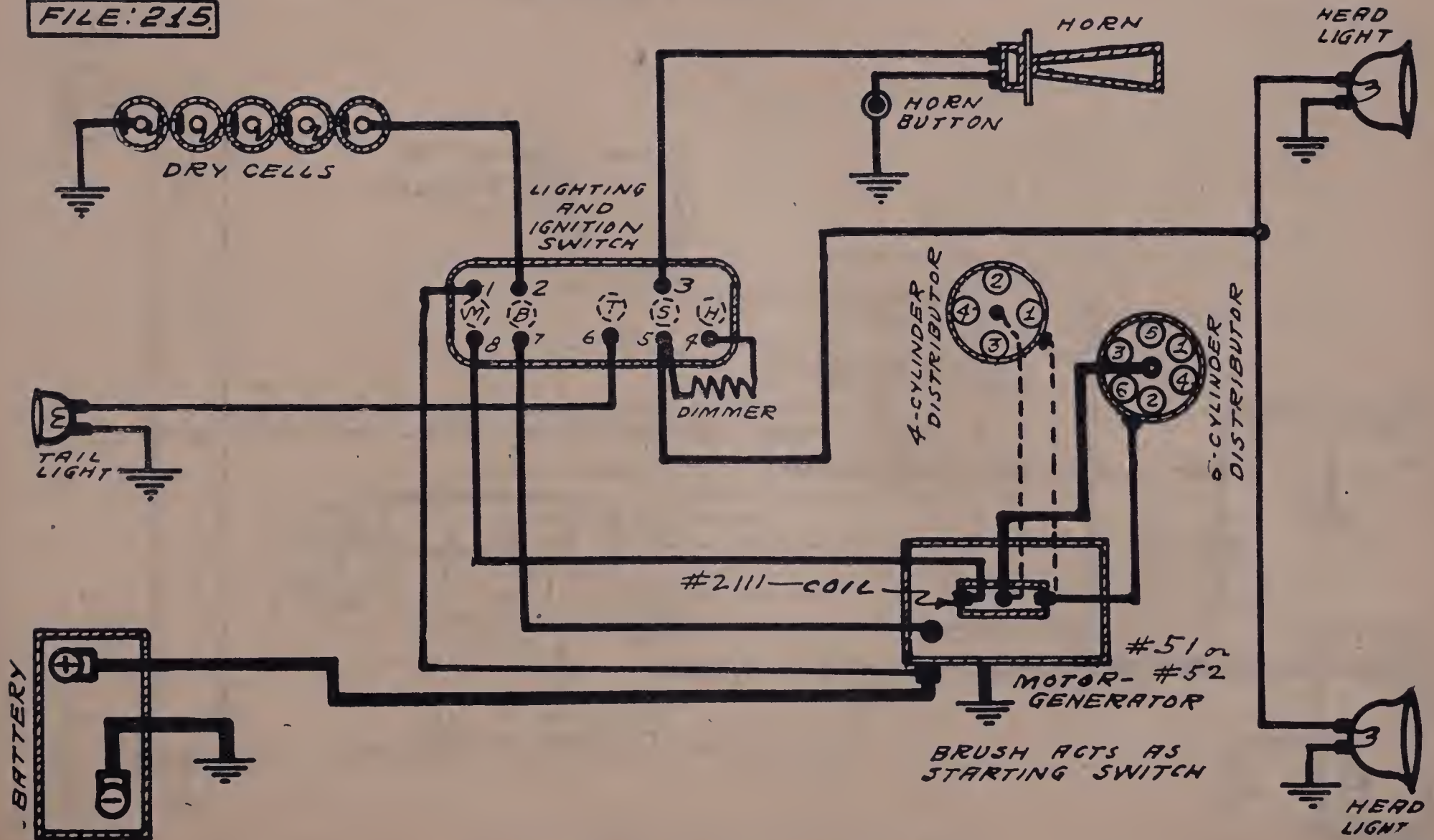


BUICK

1915

MODELS, C-36-37-54-55.
6-VOLT, DELCO SYSTEM.

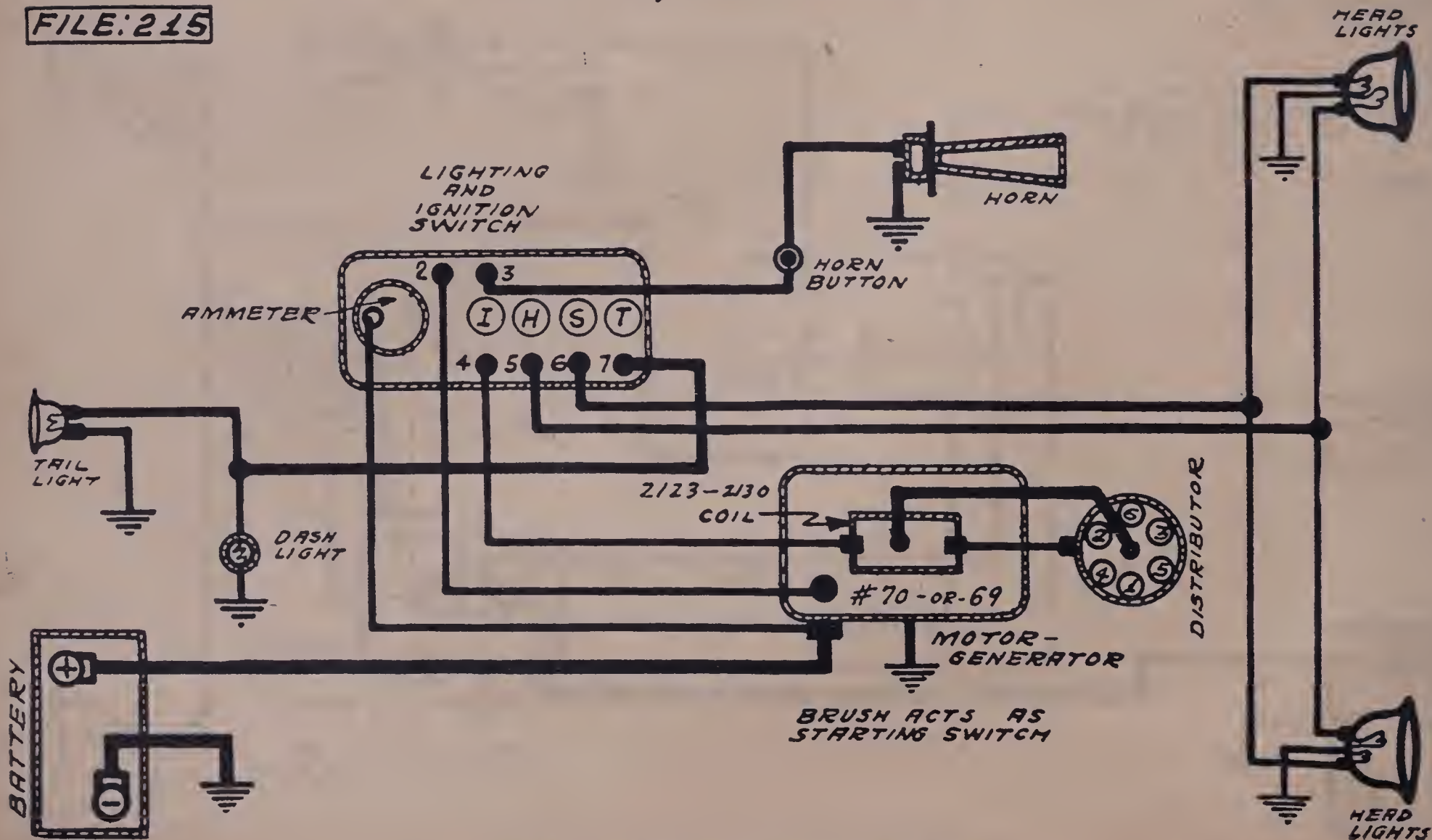
FILE: 215



BUICK

1916-MODEL D-44,45,54,55. = 1917-D-6,44,45,46,47.
6-VOLT,-DELCO SYSTEM.

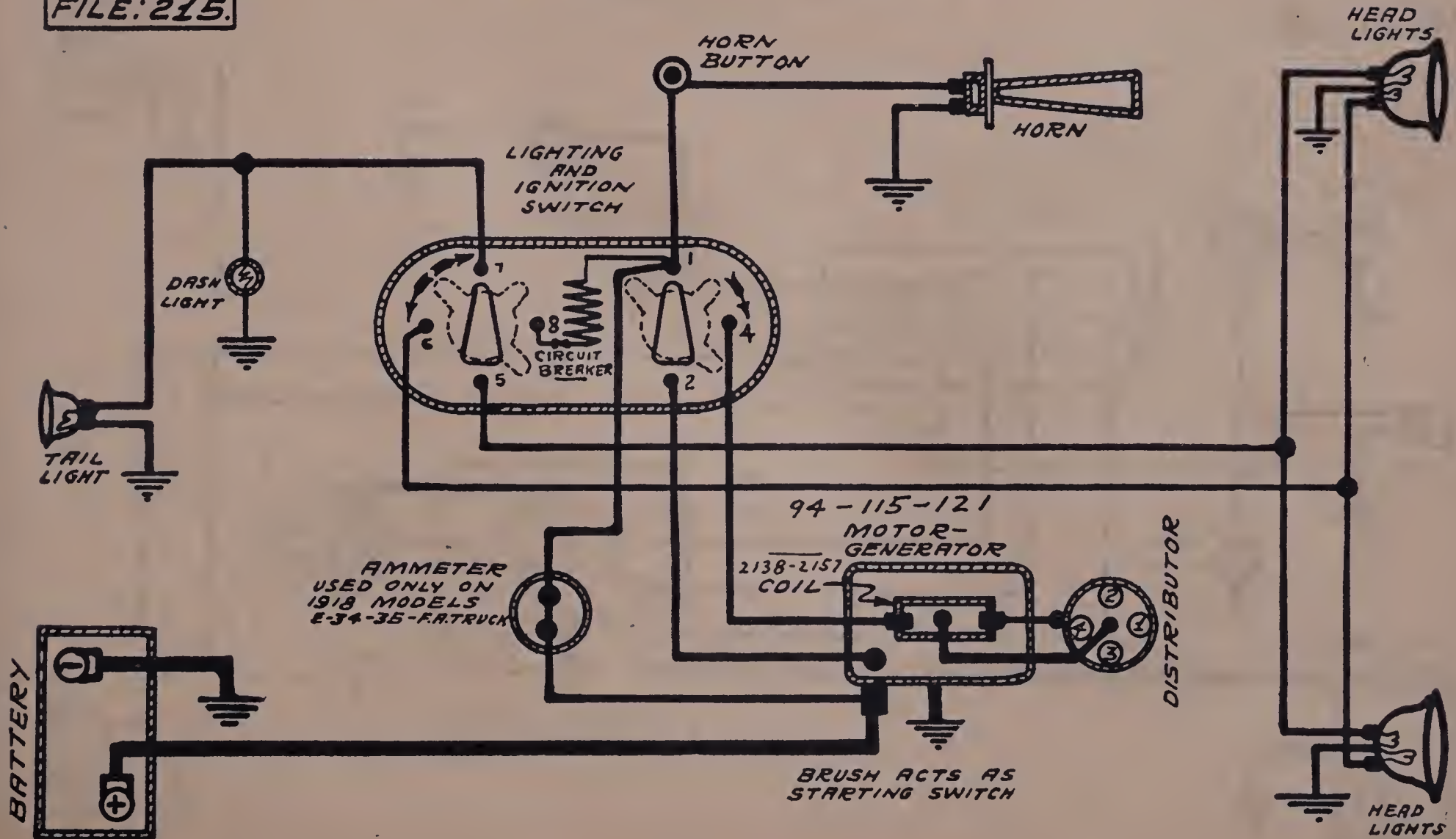
FILE:215



BUICK

1917 MODELS-D-34-35. 1918 MODELS,E-34,35,F-A-TRUCK.
6-VOLT, DELCO SYSTEM.

FILE:215.

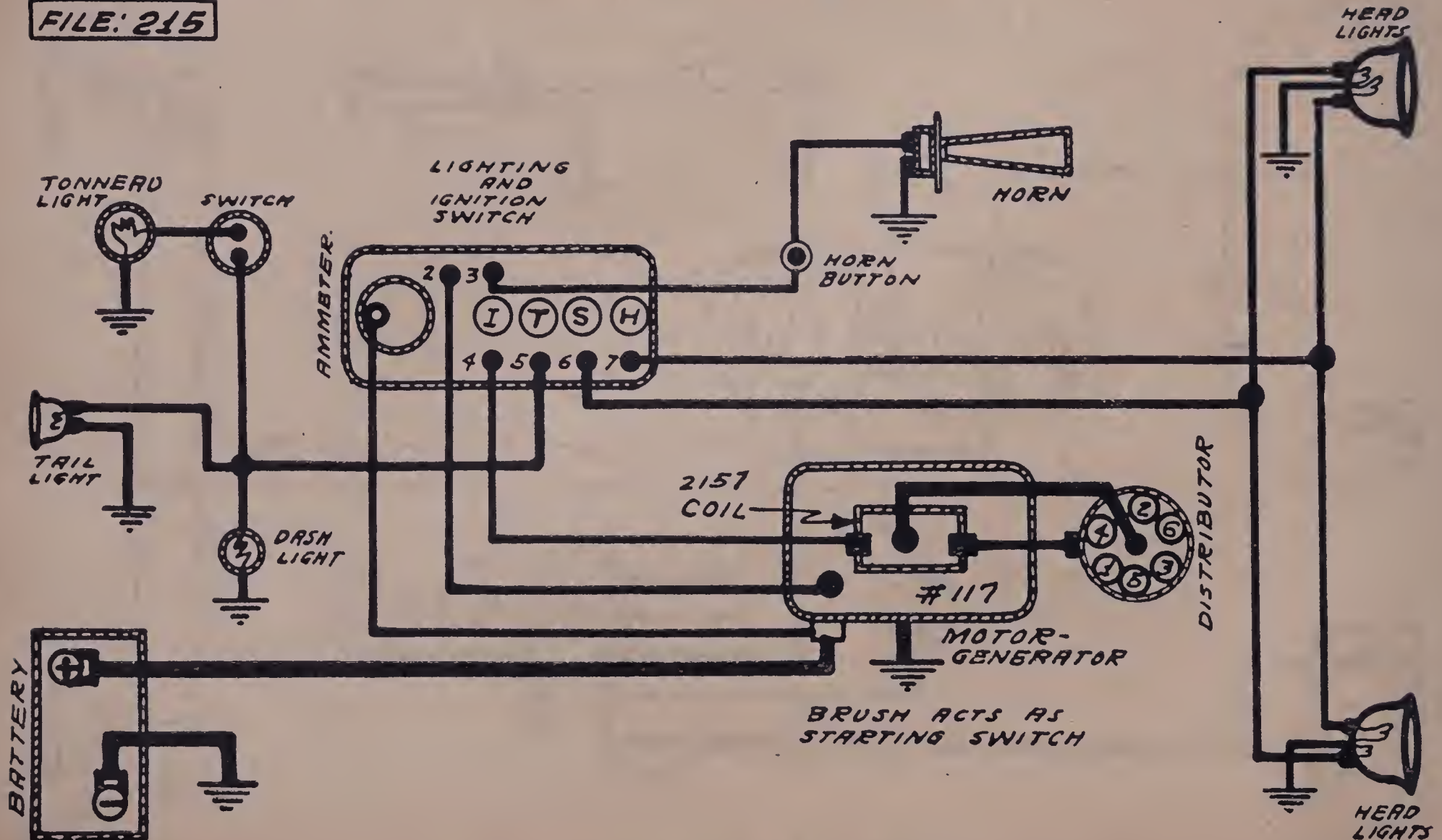


BUICK

1918

MODELS E-44-45-47-49-50.
6-VOLT, - DELCO SYSTEM.

FILE: 215

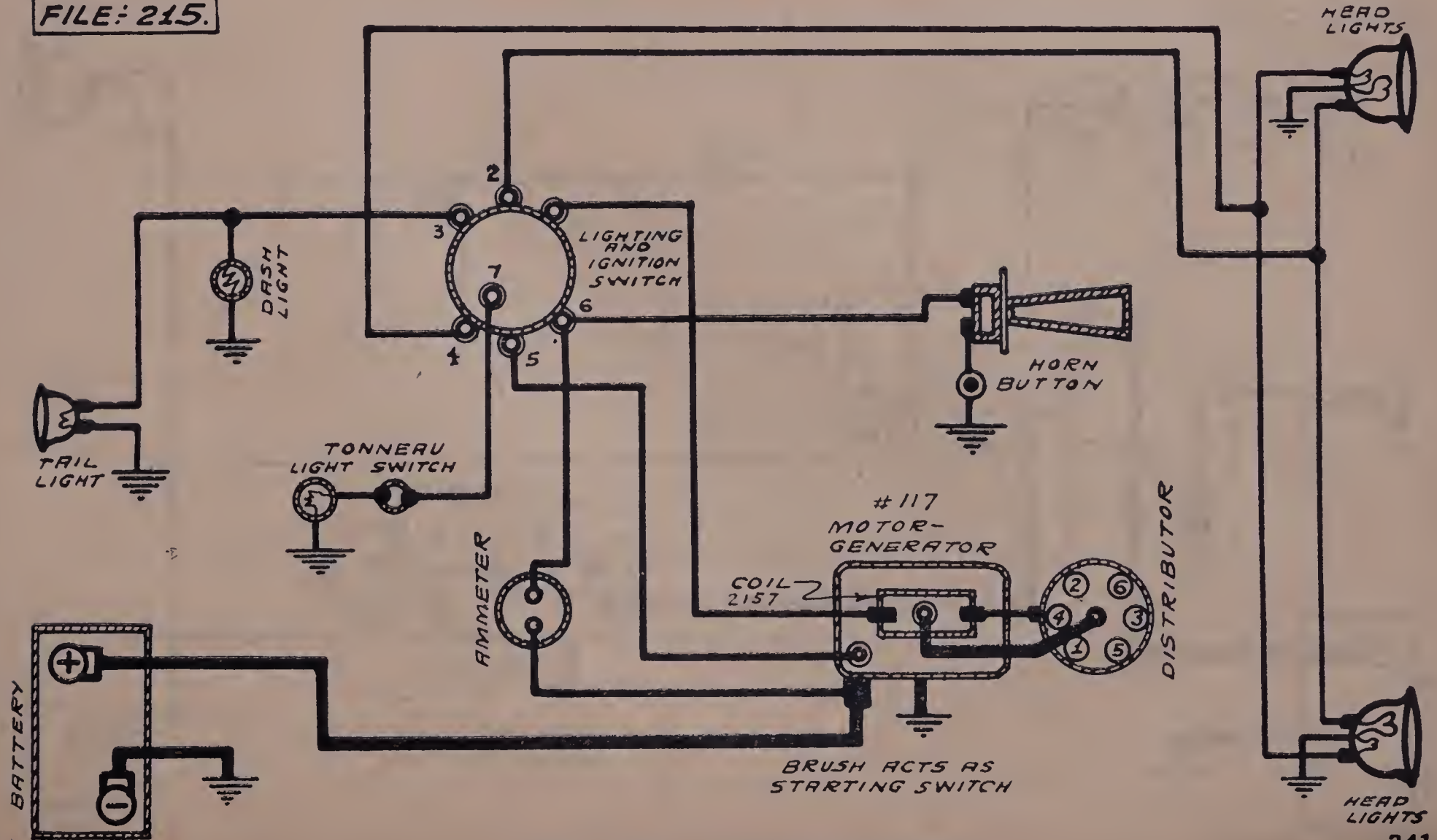


BUICK

1919-1920.

MODELS H-44;45,-46,-47,-49,-50. K-44,-45,-46,-47-49,-50.
6-VOLT, DELCO SYSTEM

FILE: 215.



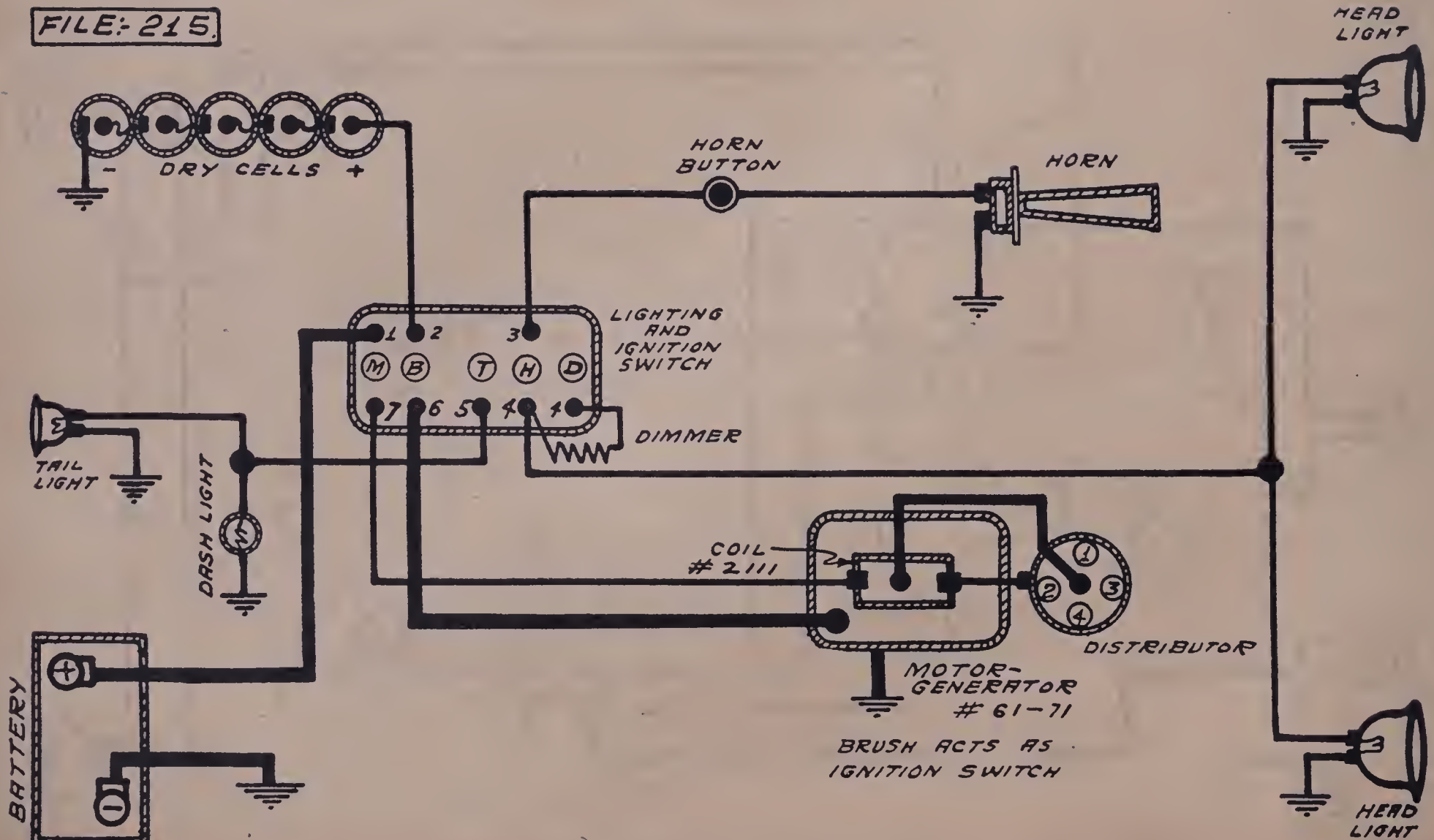
BUICK TRUCK

1915

MODEL C-4

6-VOLT, -DELCO SYSTEM.

FILE: 215.



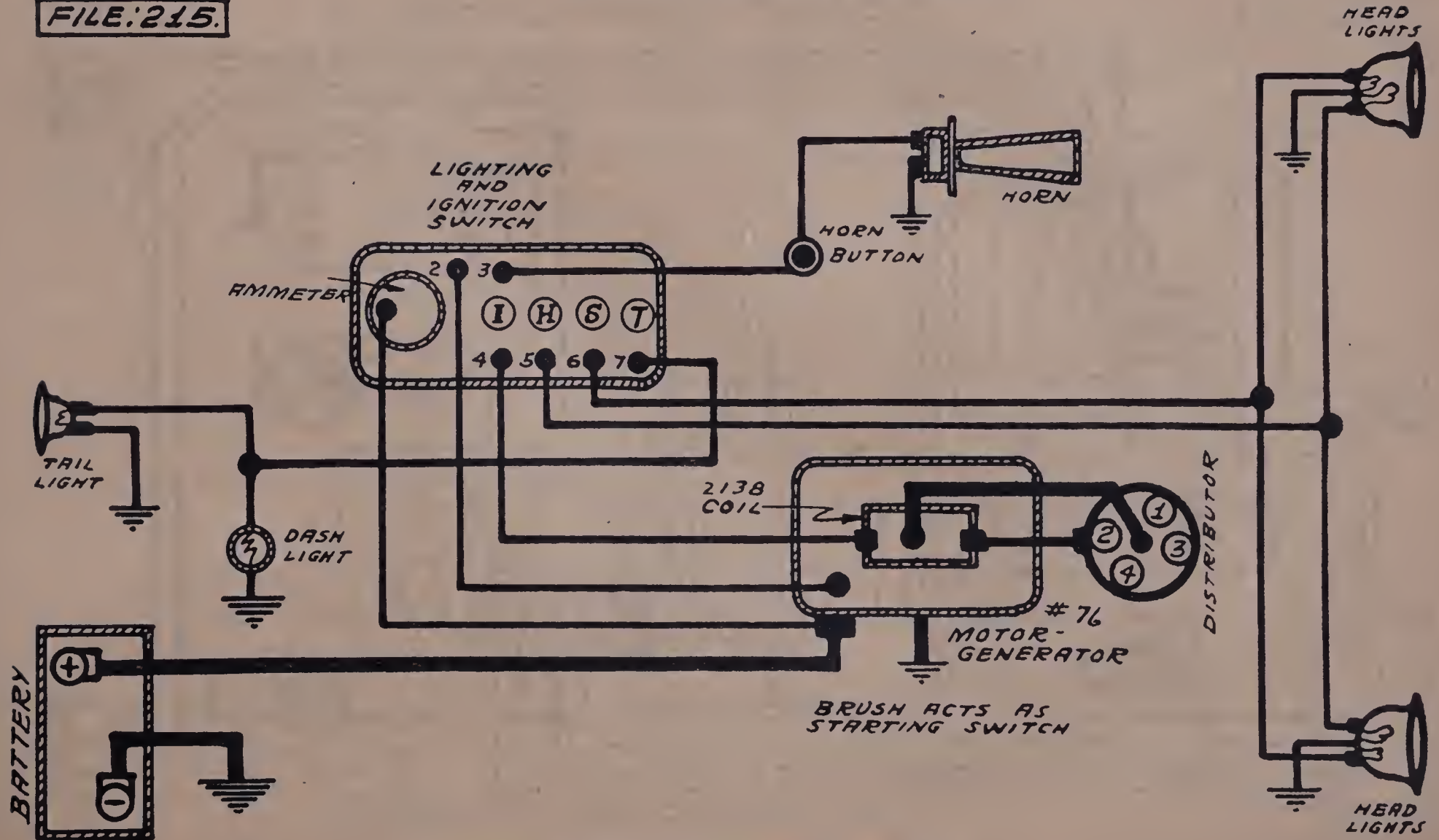
1916

BUICK TRUCK

MODEL D-4

6-VOLT, DELCO SYSTEM.

FILE:215.

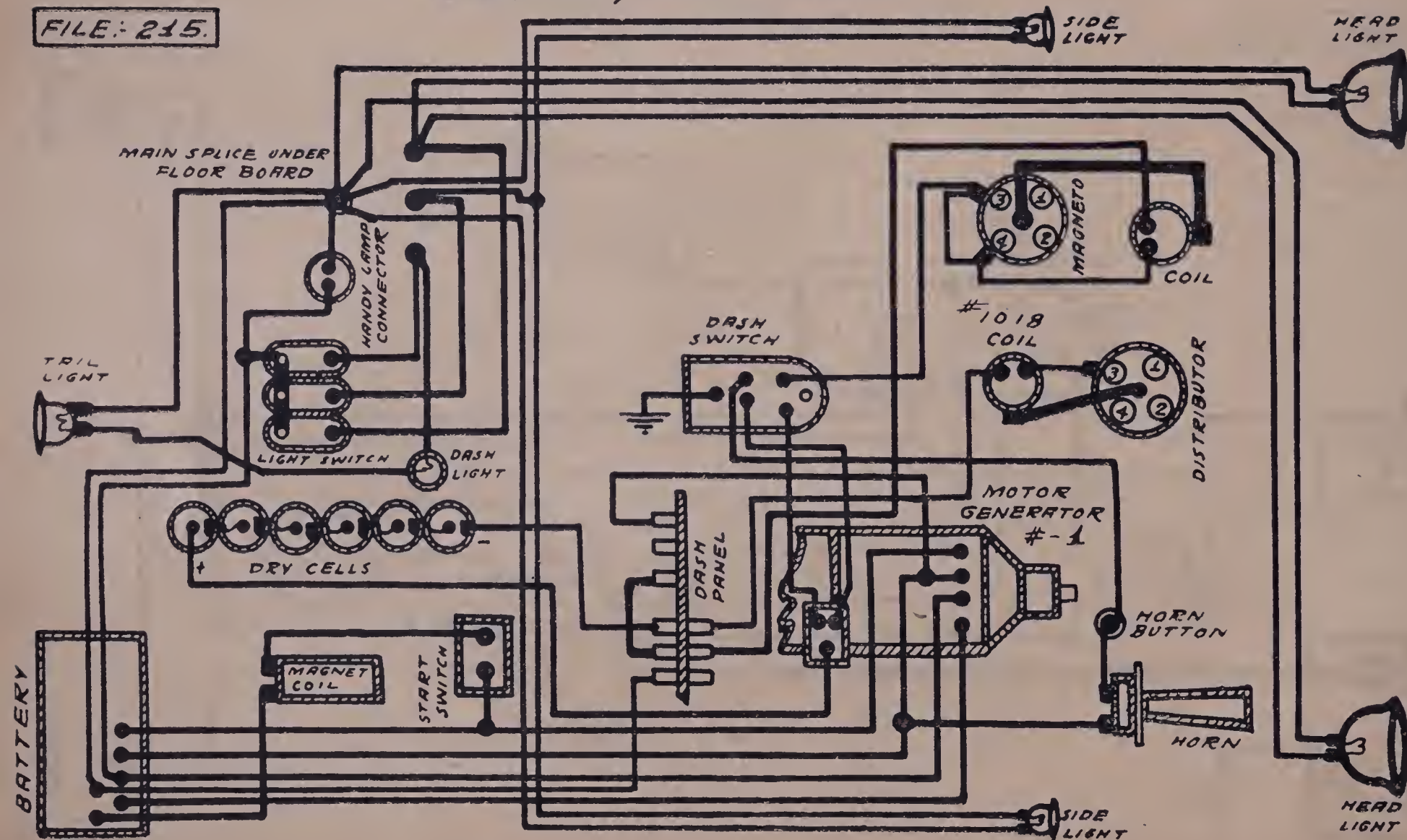


CADILLAC

1912 MODEL

6-24-VOLT, DELCO SYSTEM.

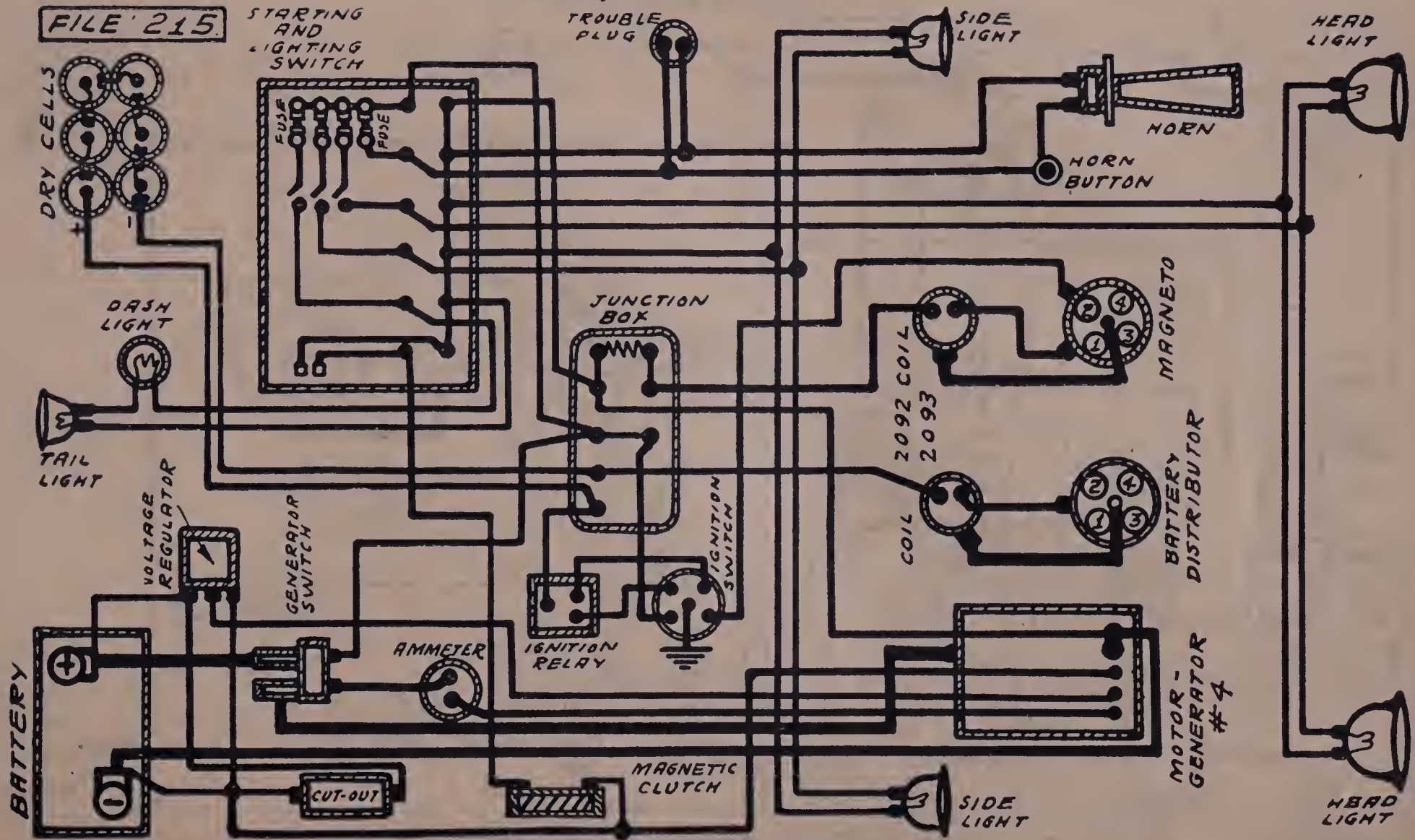
FILE: 215.



CADILLAC

1913 MODEL

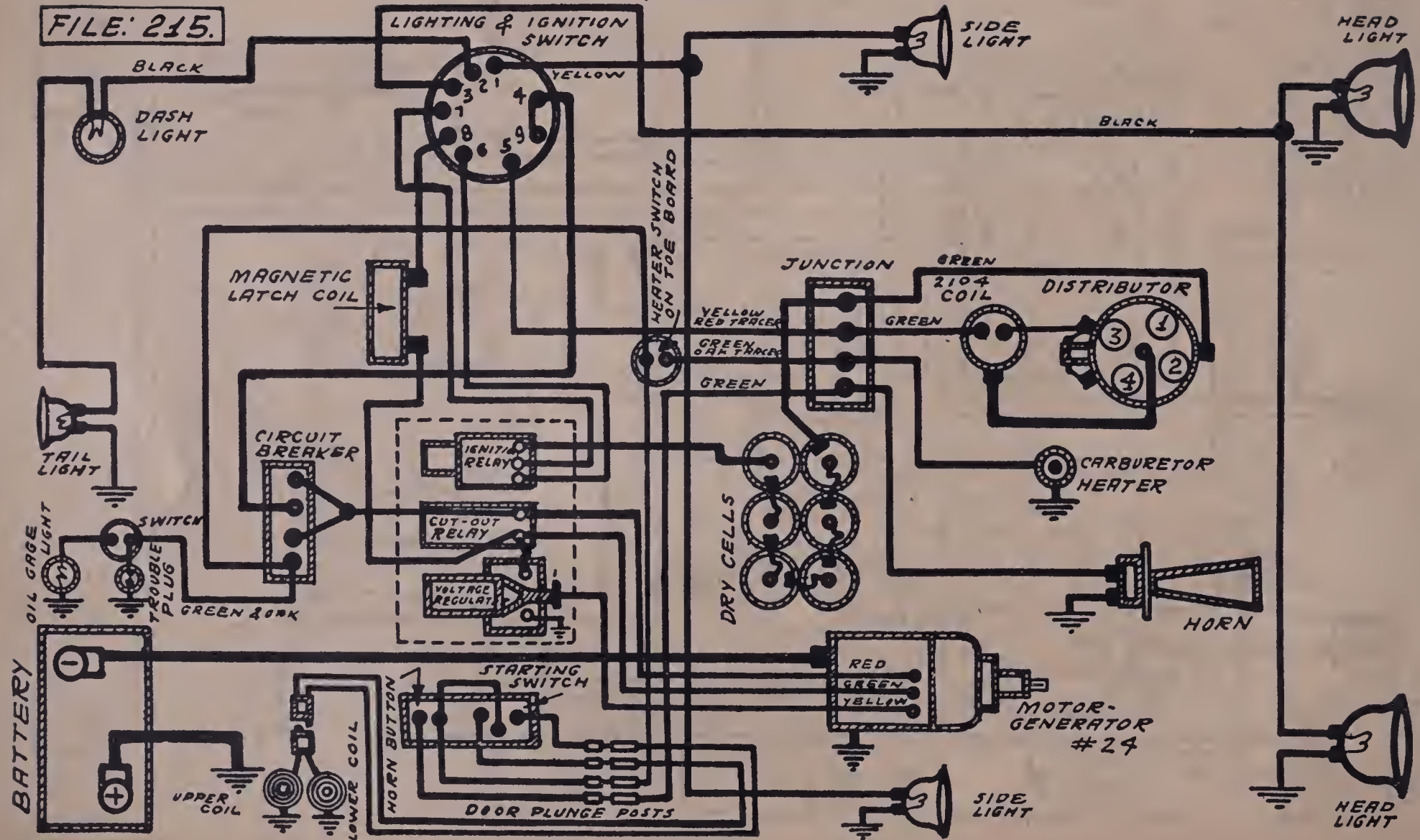
6-VOLT, DELCO SYSTEM.



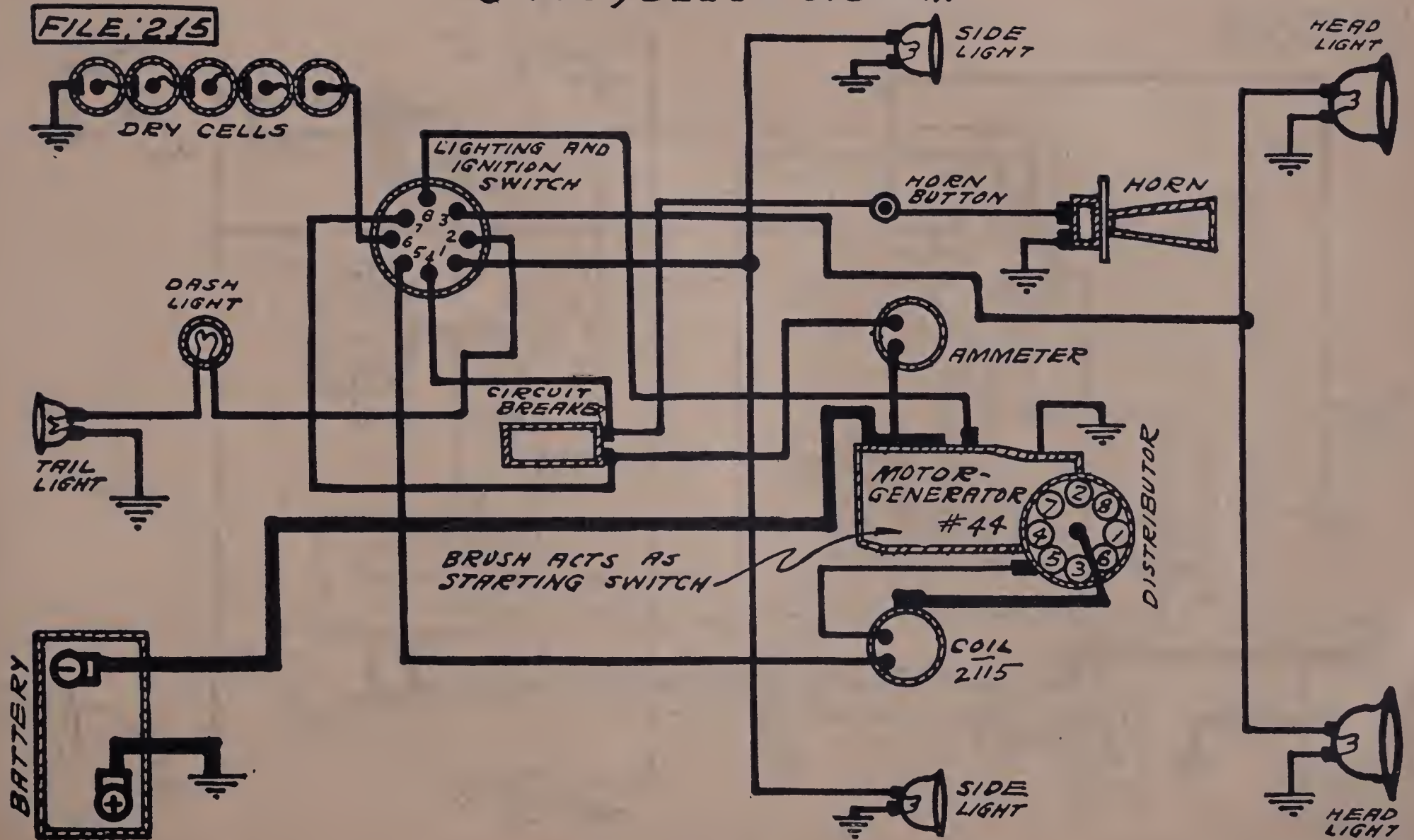
CADILLAC

1914 MODEL

6-VOLT,-DELCO SYSTEM.



CADILLAC 1915 MODEL 6-VOLT, DELCO SYSTEM



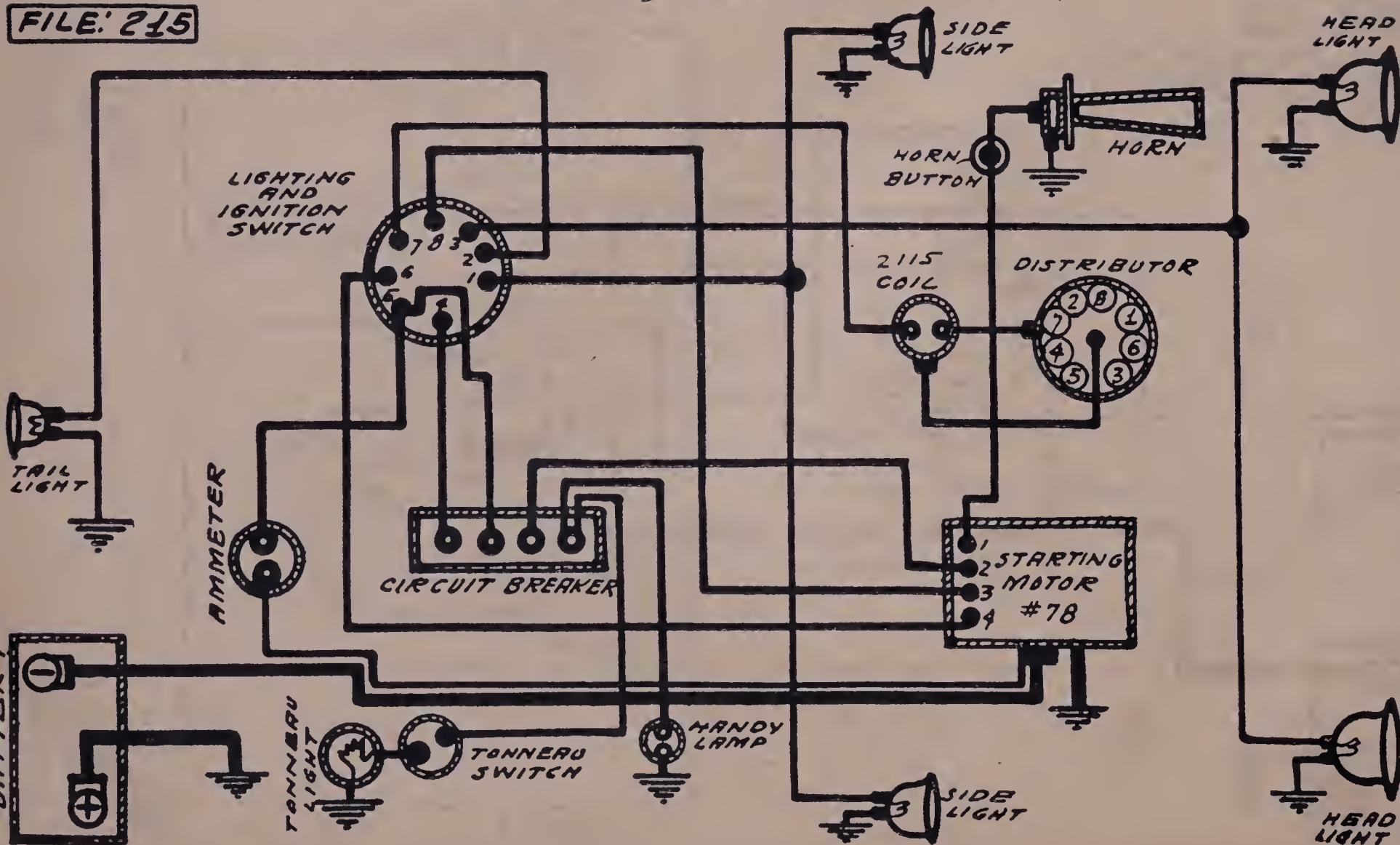
CADILLAC.

1916

TYPE 53.

6-VOLT, - DELCO SYSTEM

FILE: 245



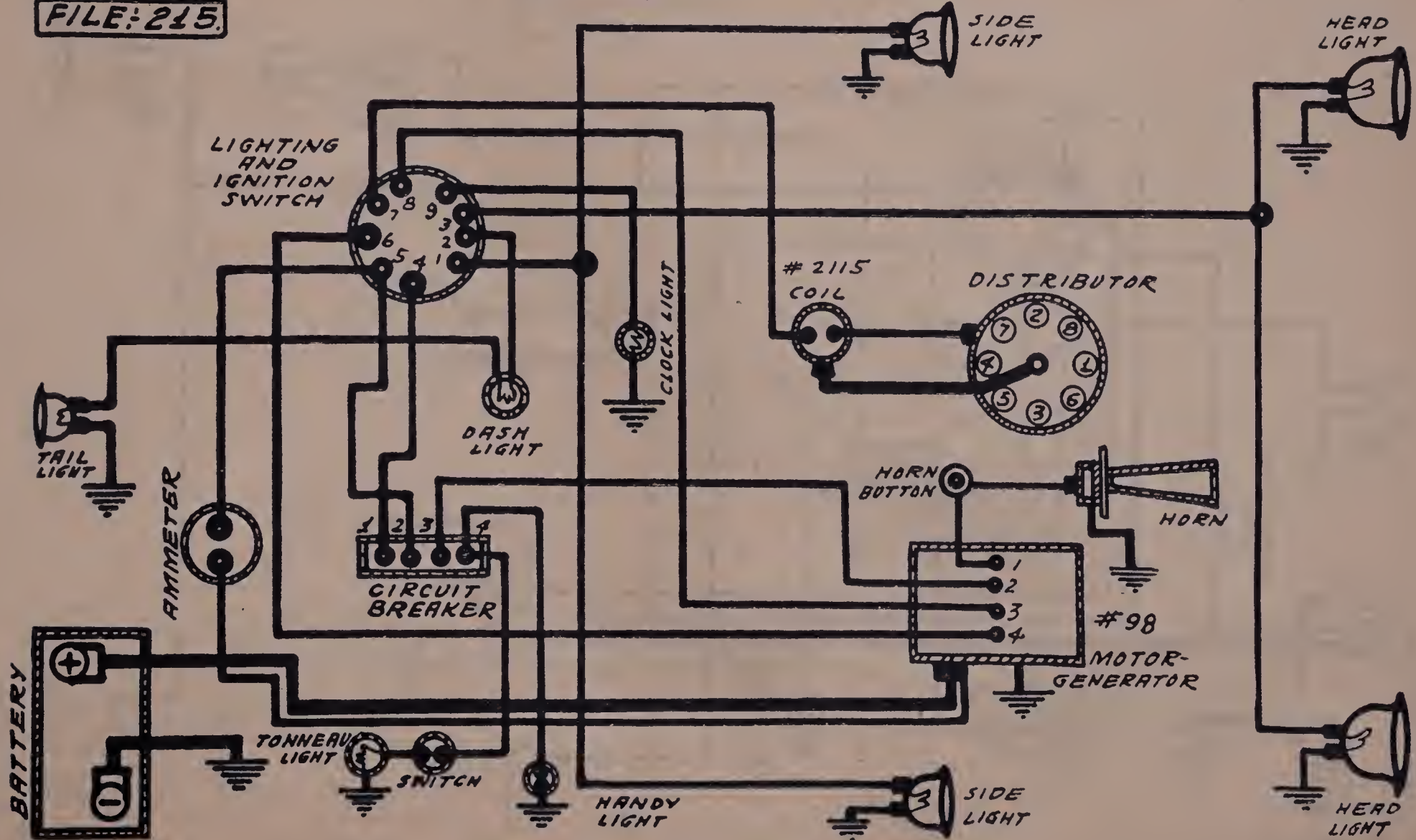
CADILLAC

1917-1918 - MODEL-55.

1919-MODEL-57.

6-VOLT, DELCO SYSTEM.

FILE: 215.



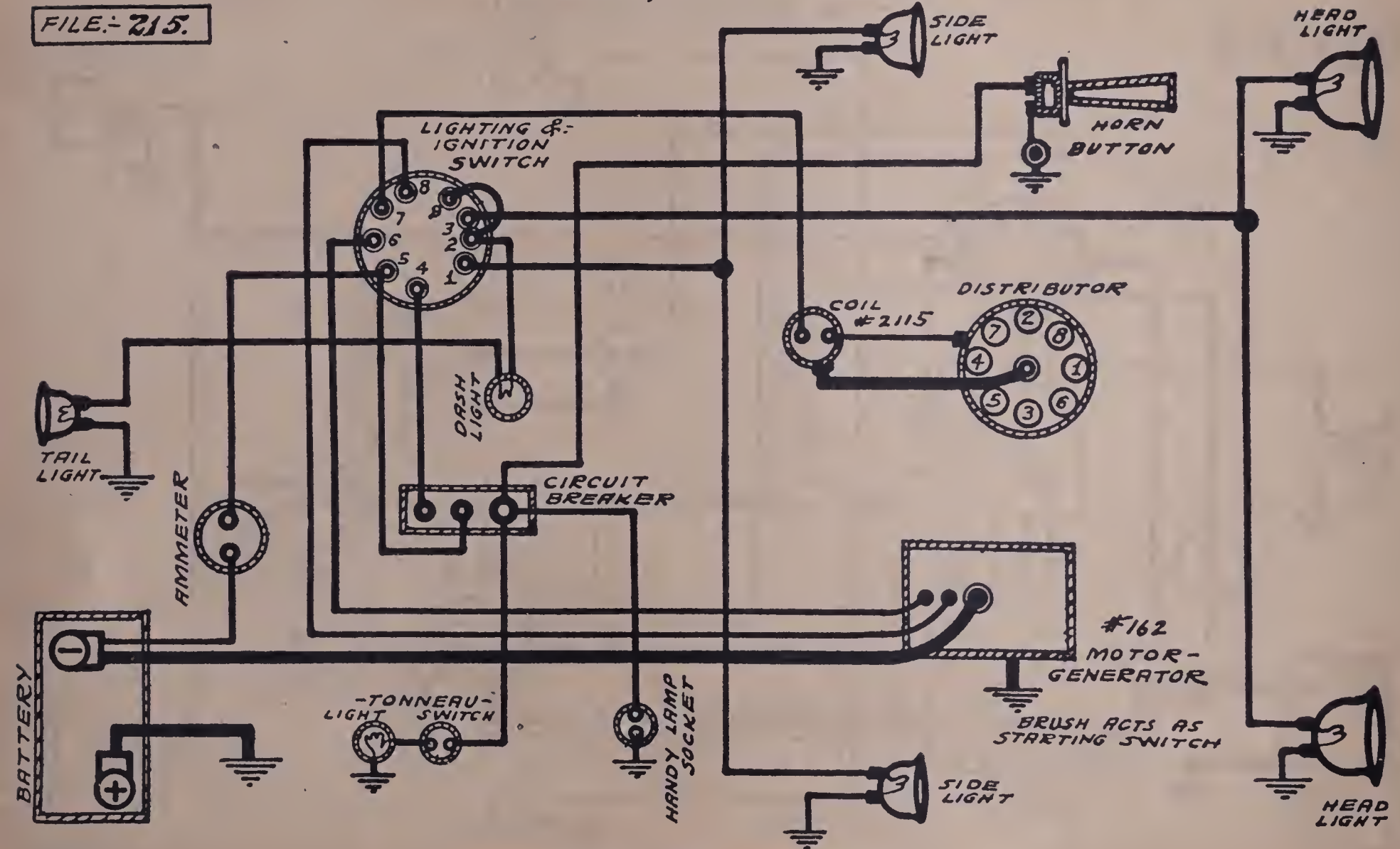
CADILLAC

1920.

MODEL 59.

6-VOLT, DELCO SYSTEM.

FILE:- 215.



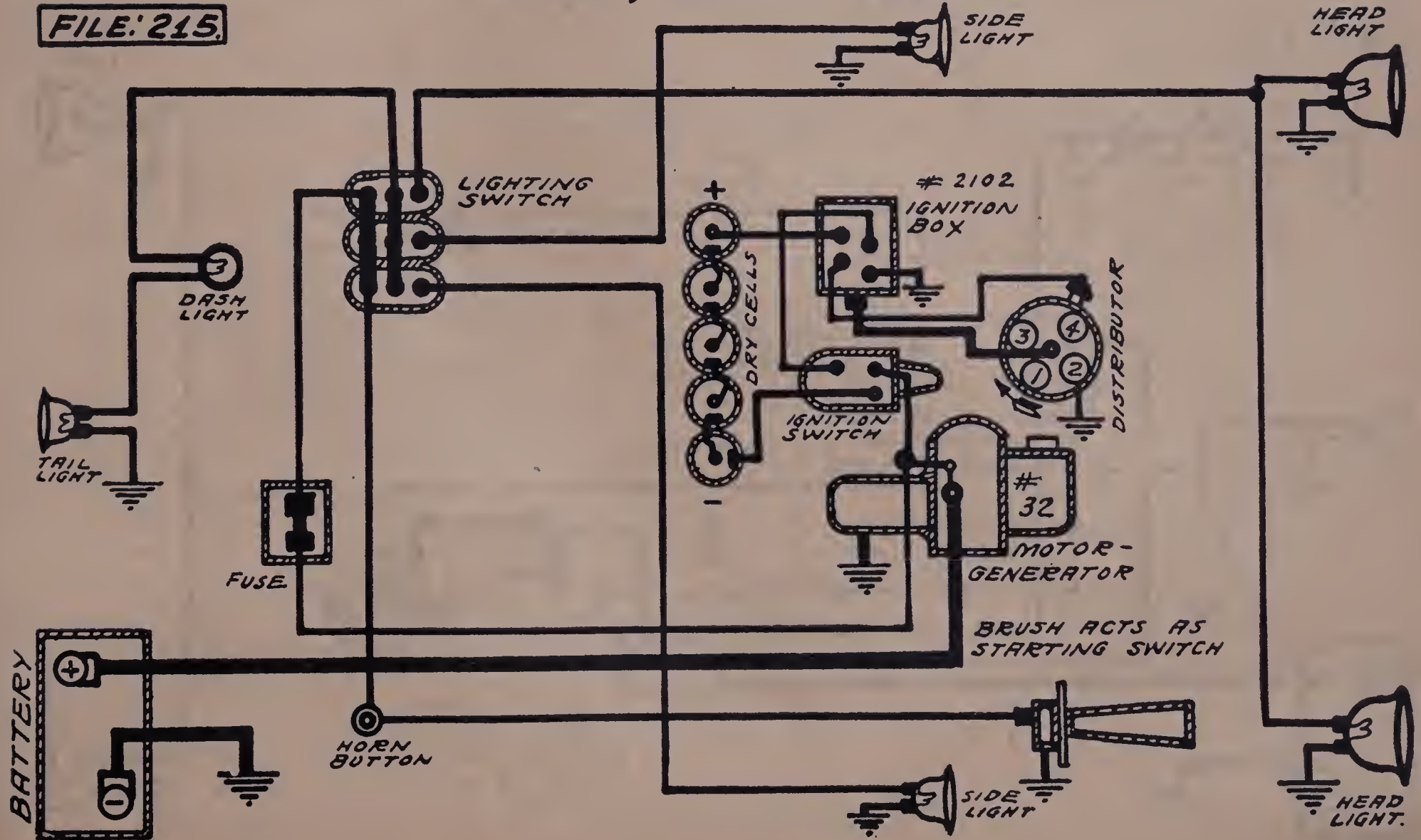
CARTER CAR

1914

MODEL 7

6-VOLT, DELCO SYSTEM.

FILE: 215.



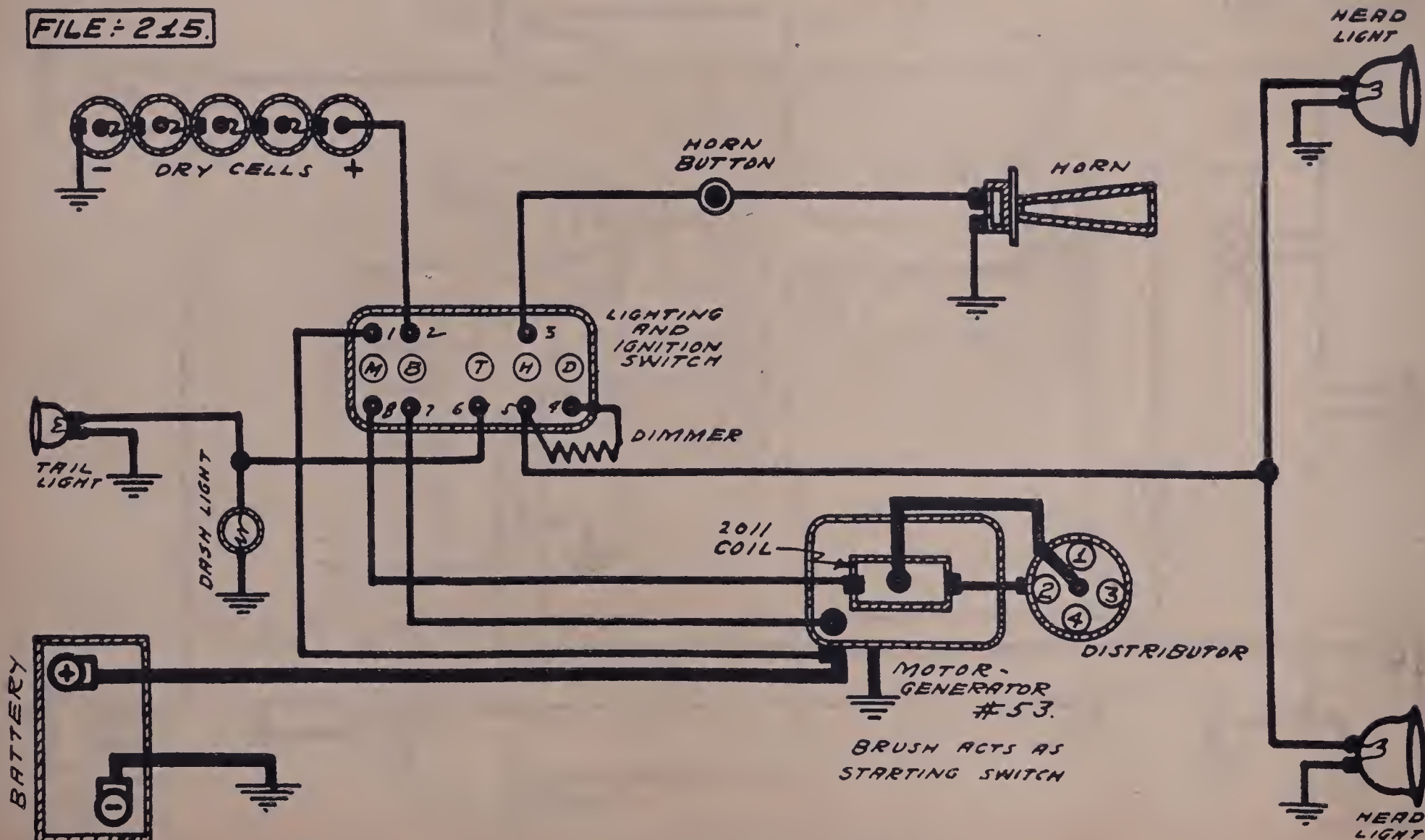
CARTER CAR

1915

MODEL 9

6-VOLT, - DELCO SYSTEM

FILE: 215.



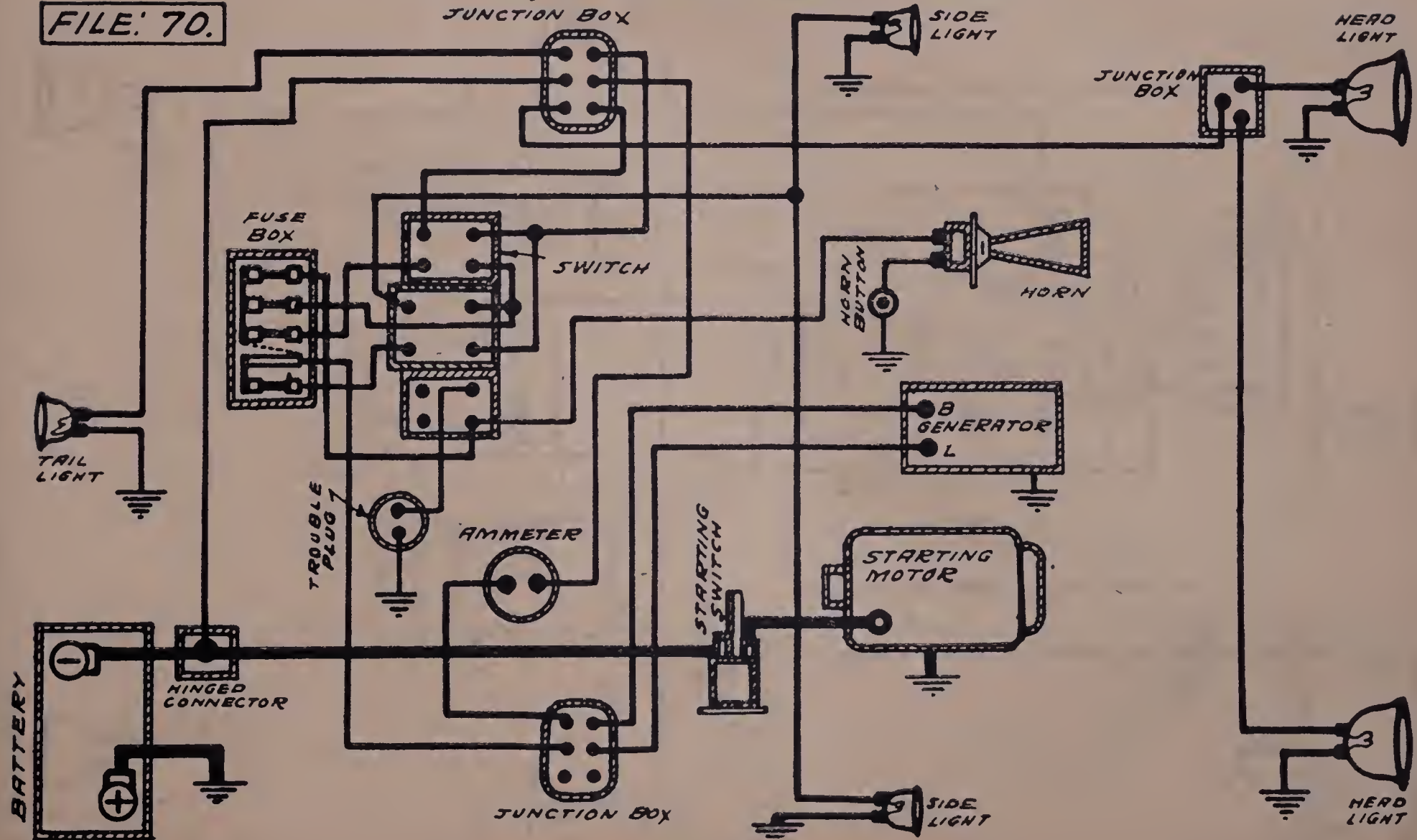
CASE

1914.

MODEL-O-

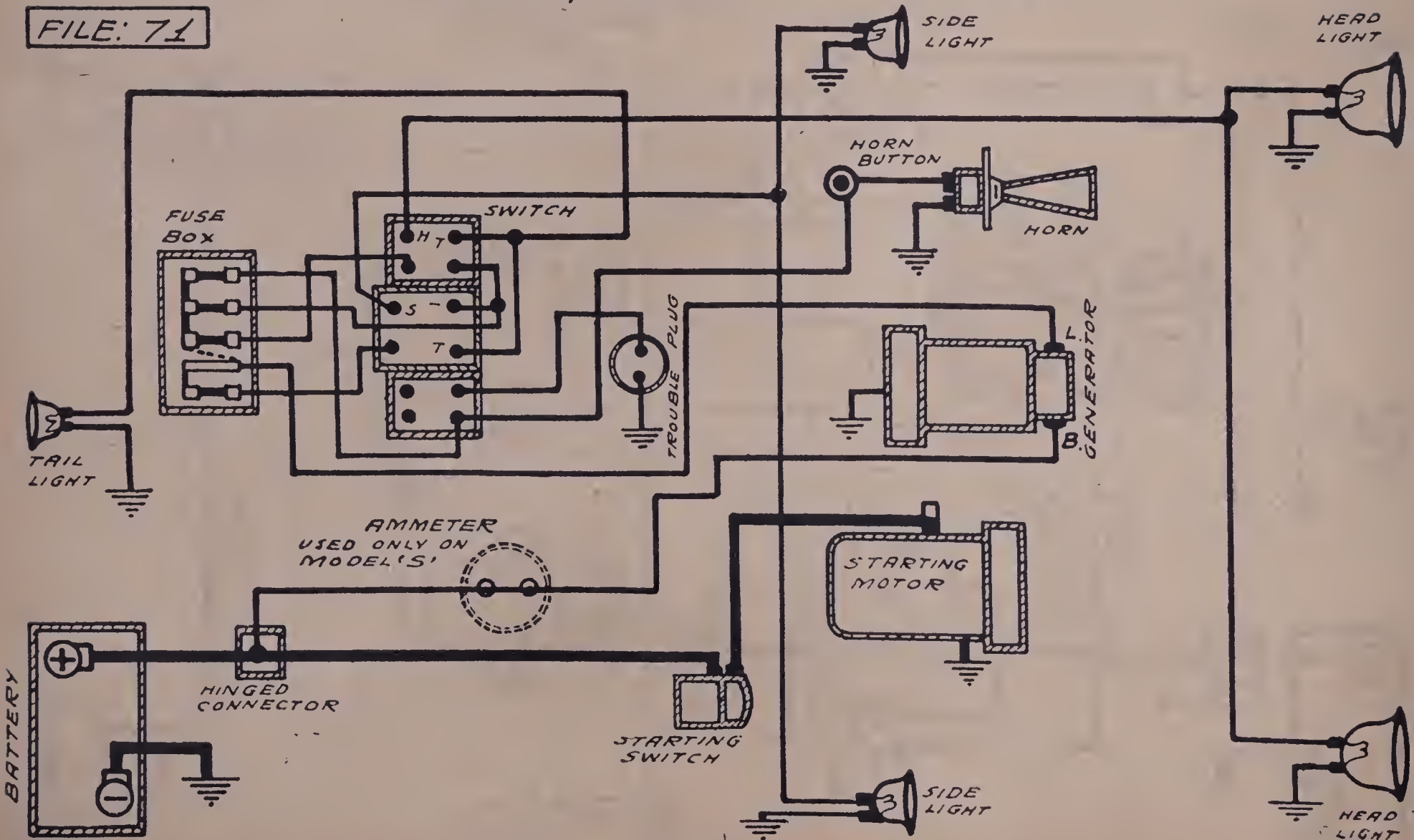
6-VOLT, WESTINGHOUSE SYSTEM.

FILE: 70.



MODEL R AND S

FILE: 71



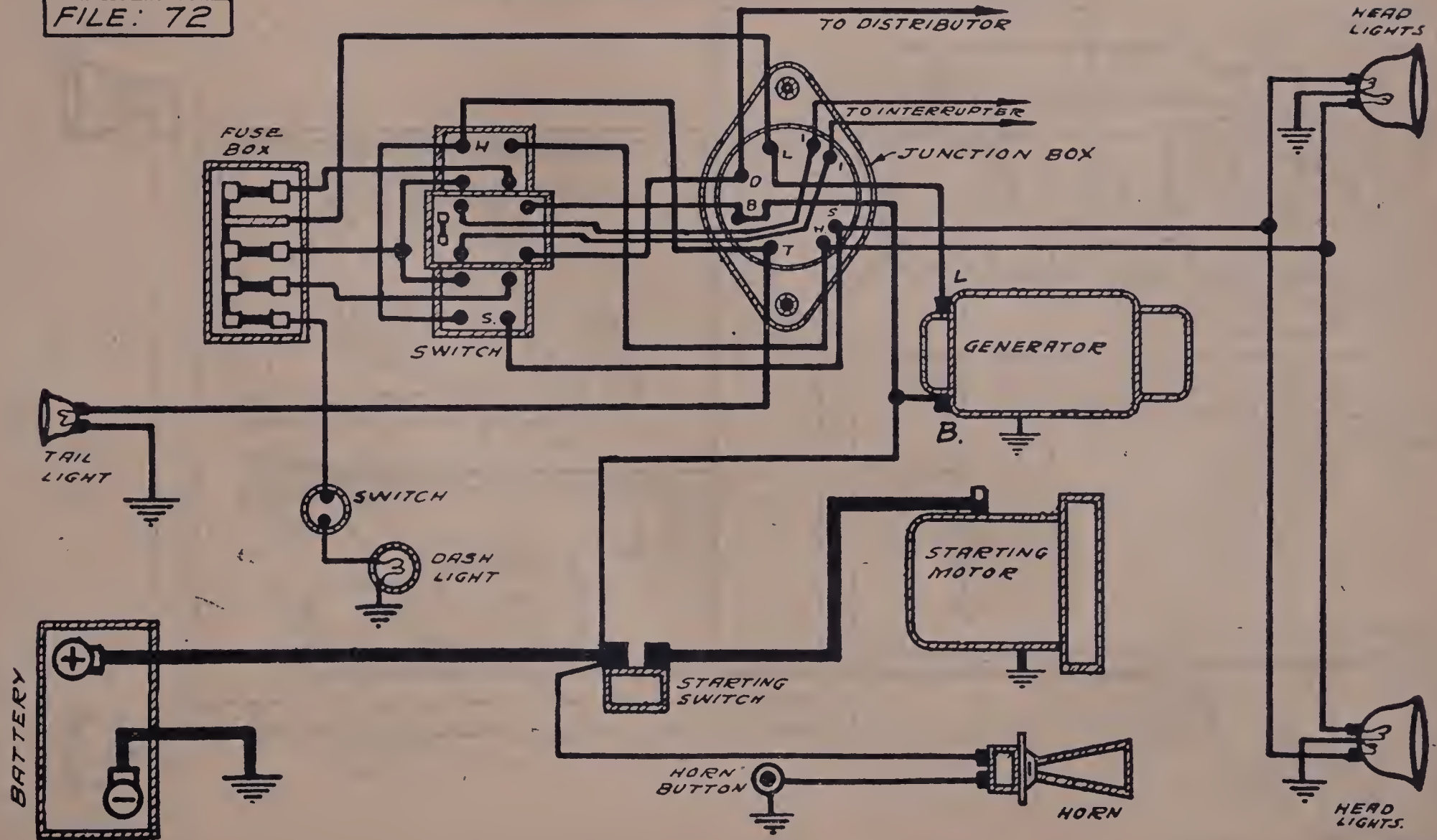
CASE

1915

MODEL R.

6-VOLT, WESTINGHOUSE SYSTEM.

FILE: 72



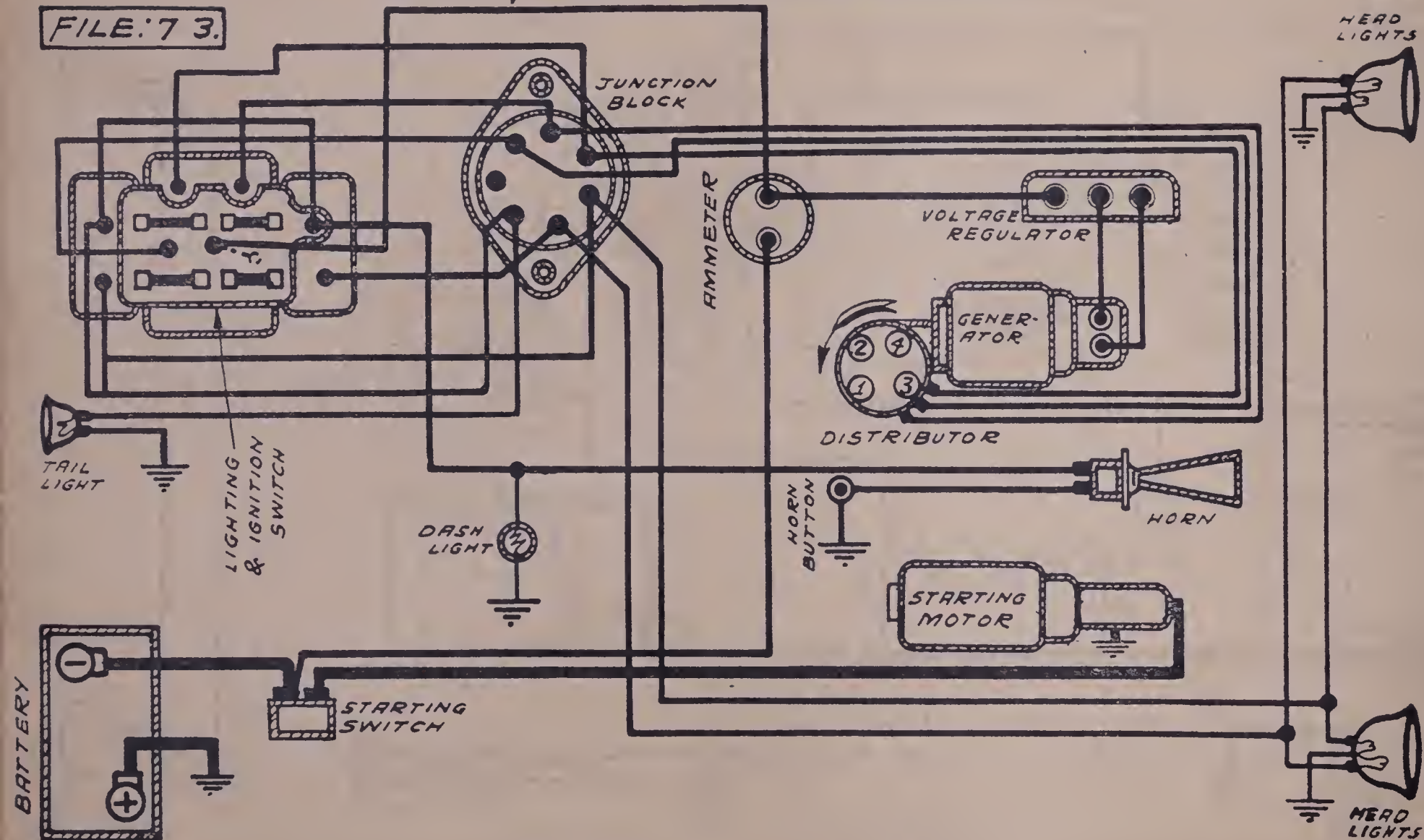
CASE

1916.

MODEL - T.

6-VOLT, WESTINGHOUSE SYSTEM

FILE: 73.



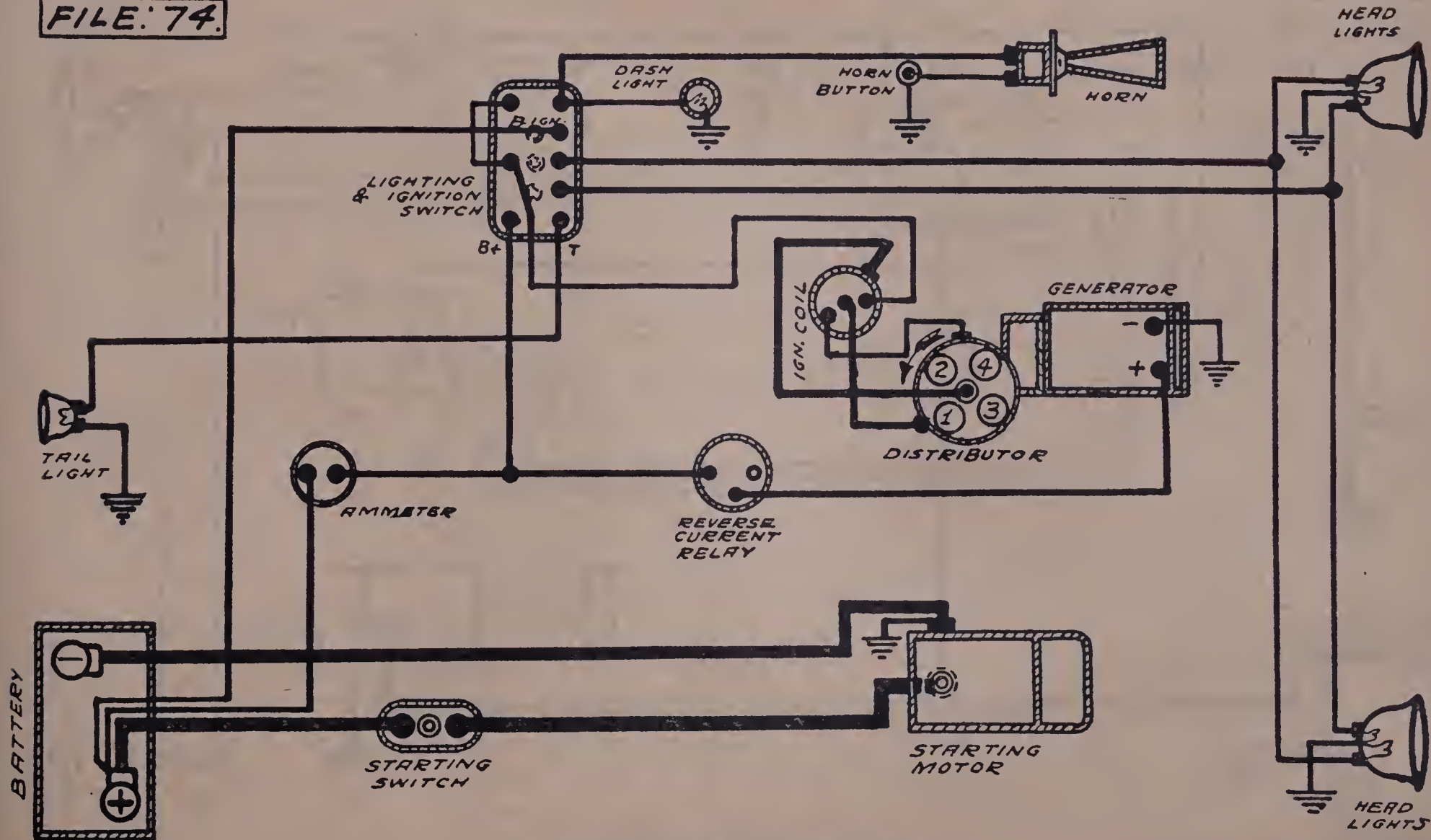
CASE

1917

MODEL - T.

6-VOLT, - WESTINGHOUSE SYSTEM

FILE: 74.



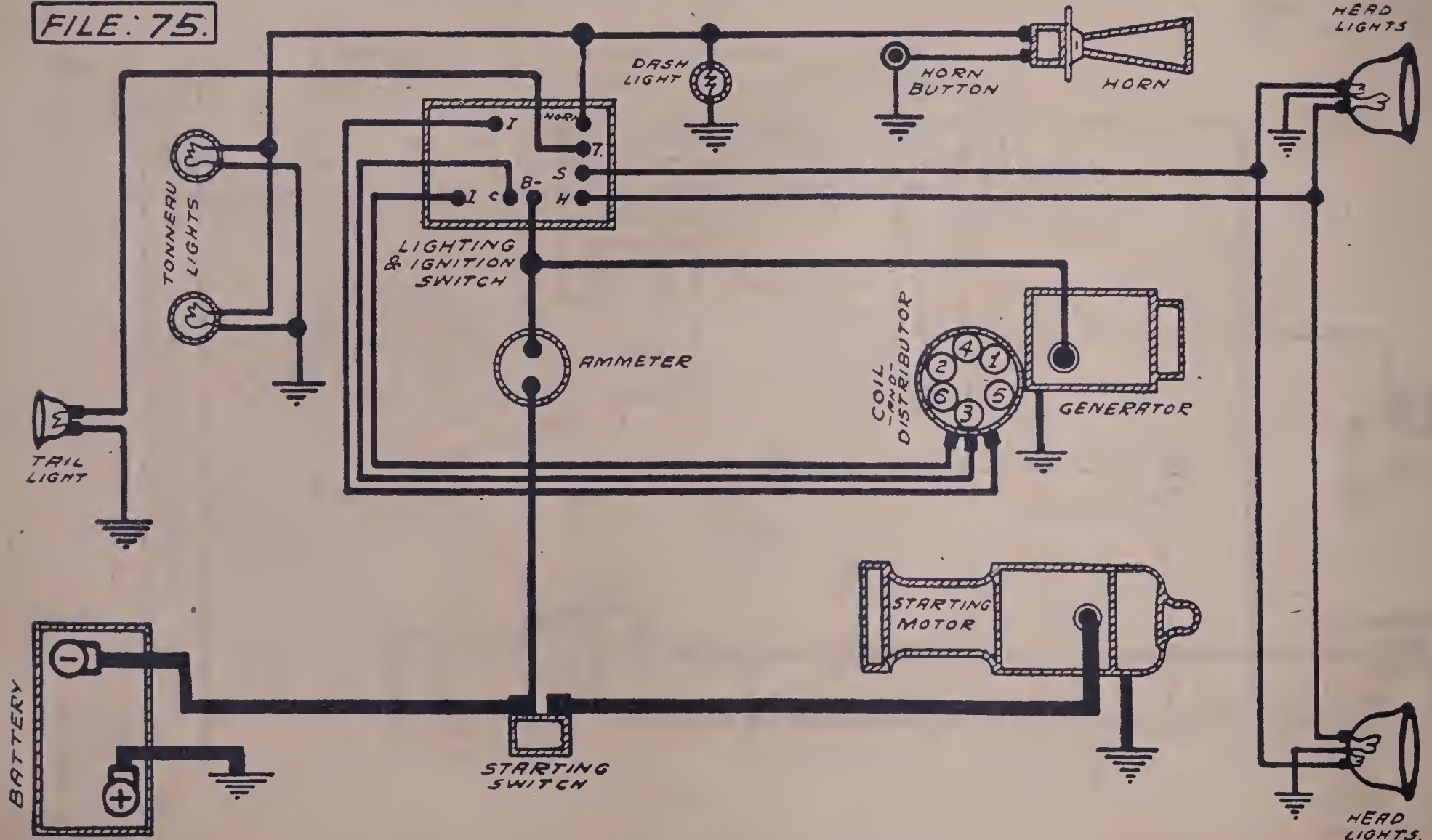
CASE

1918.

MODEL - U

6-VOLT, -WESTINGHOUSE SYSTEM.

FILE: 75.



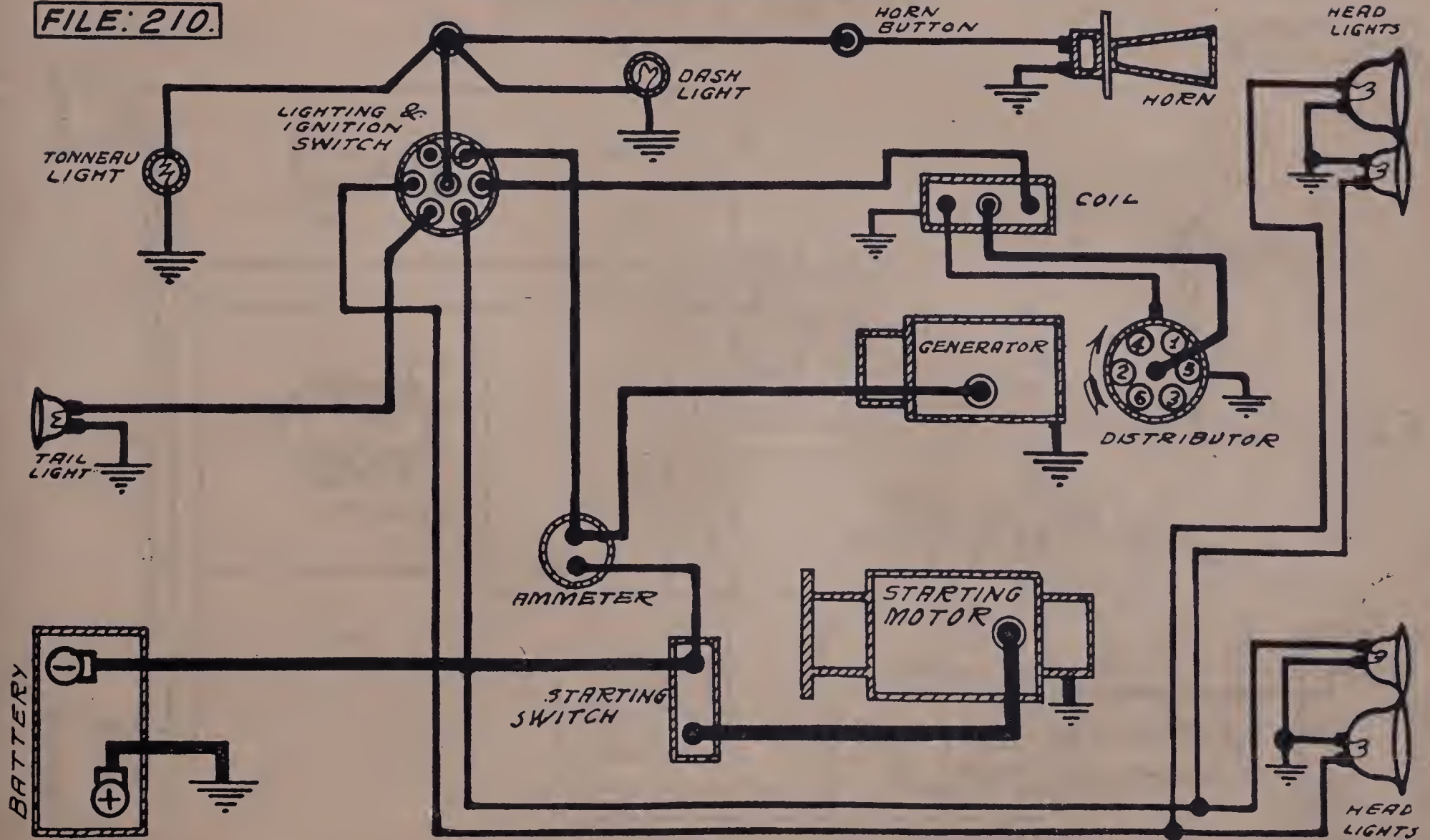
CASE

1919-1920.

MODEL V-19, V-20

6-VOLT, WESTINGHOUSE SYSTEM.

FILE: 210.



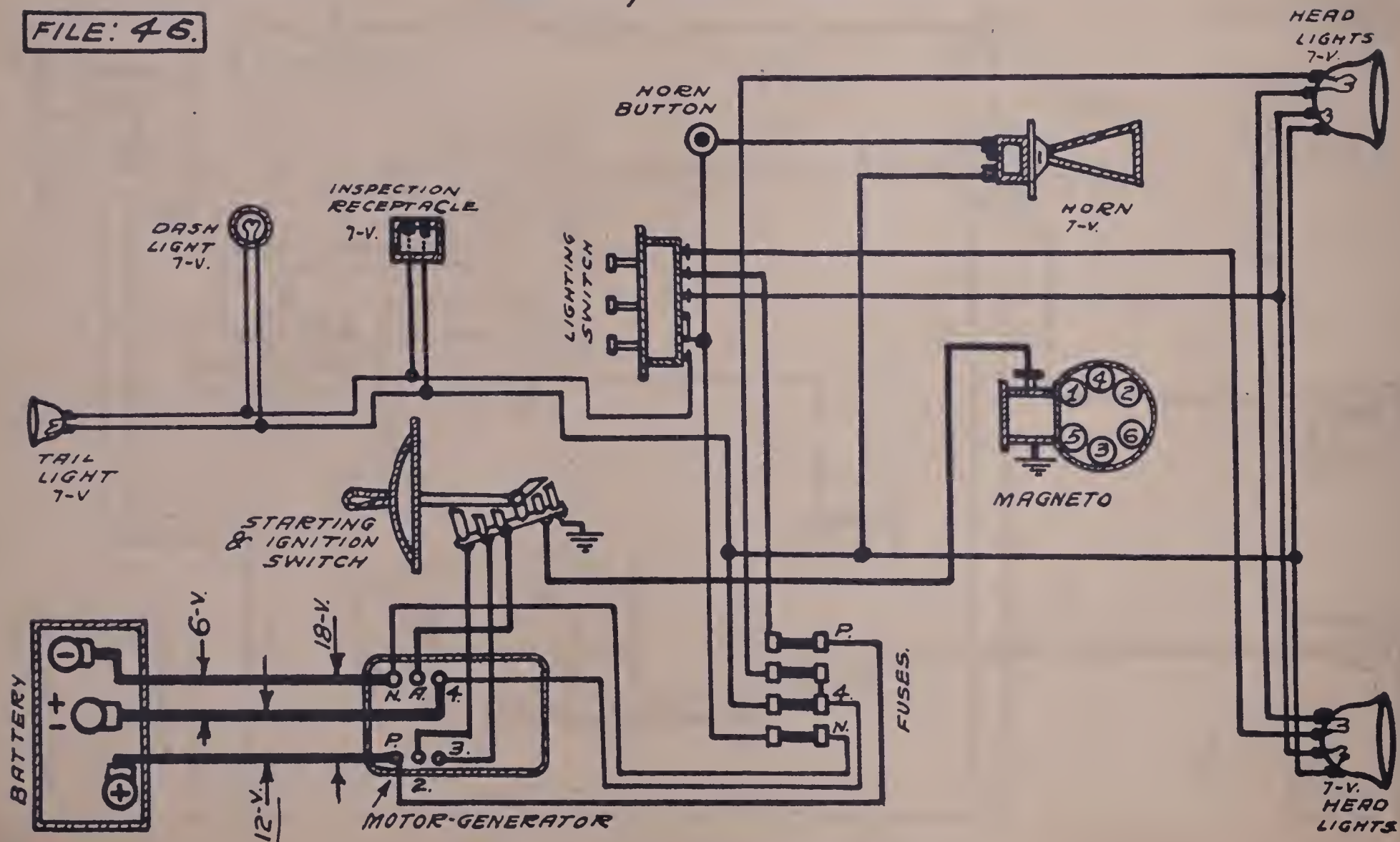
CHALMERS

1914

MODEL 24

18-VOLT, ENTZ SYSTEM.

FILE: 46.

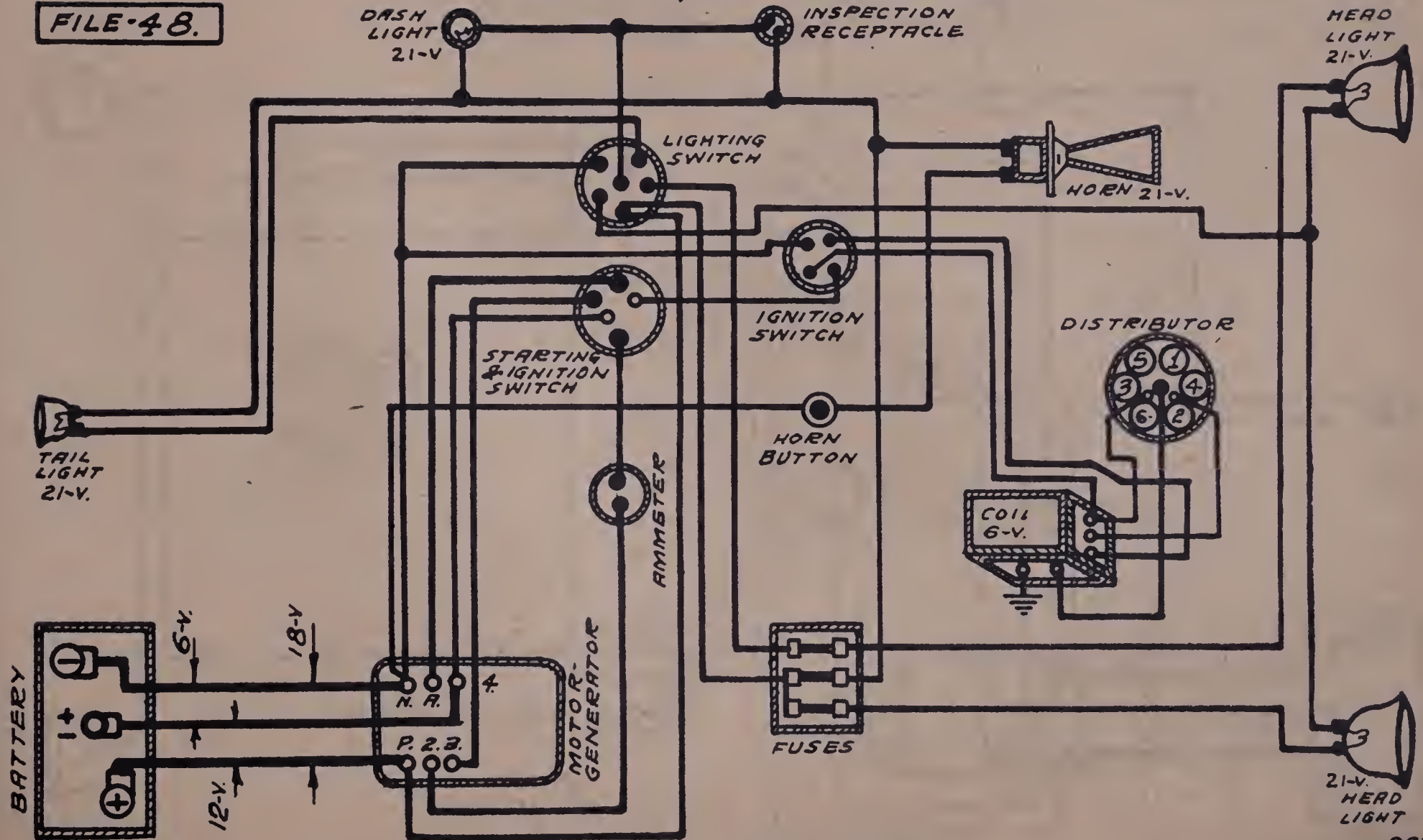


1915.

CHALMERS

-LIGHT SIX- MODEL 26-B.
18-VOLT,- ENTZ SYSTEM.

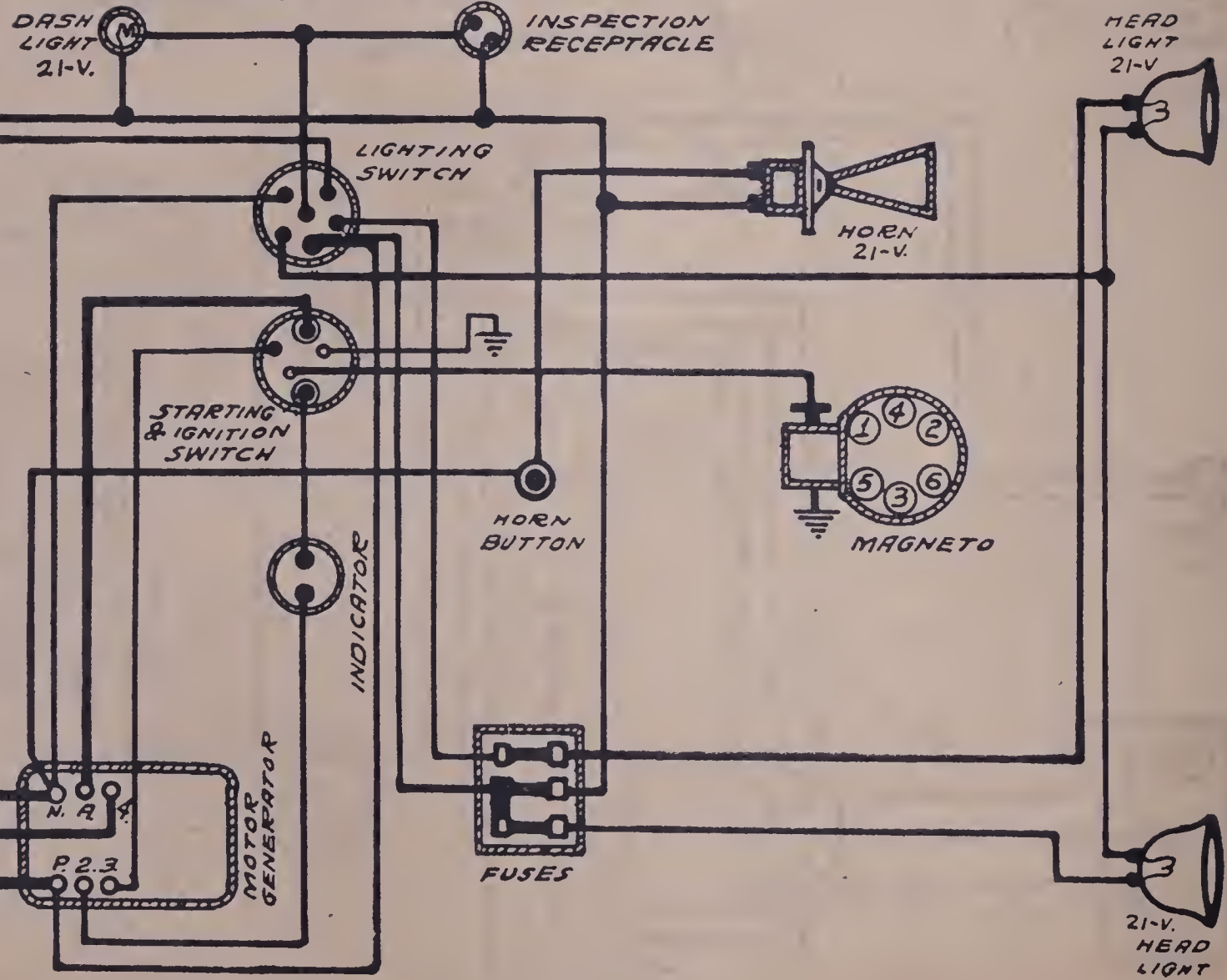
FILE-48.



CHALMERS

MASTER-SIX MODEL 29.
18-VOLT, ENTZ SYSTEM.

FILE: 47.



CHALMERS

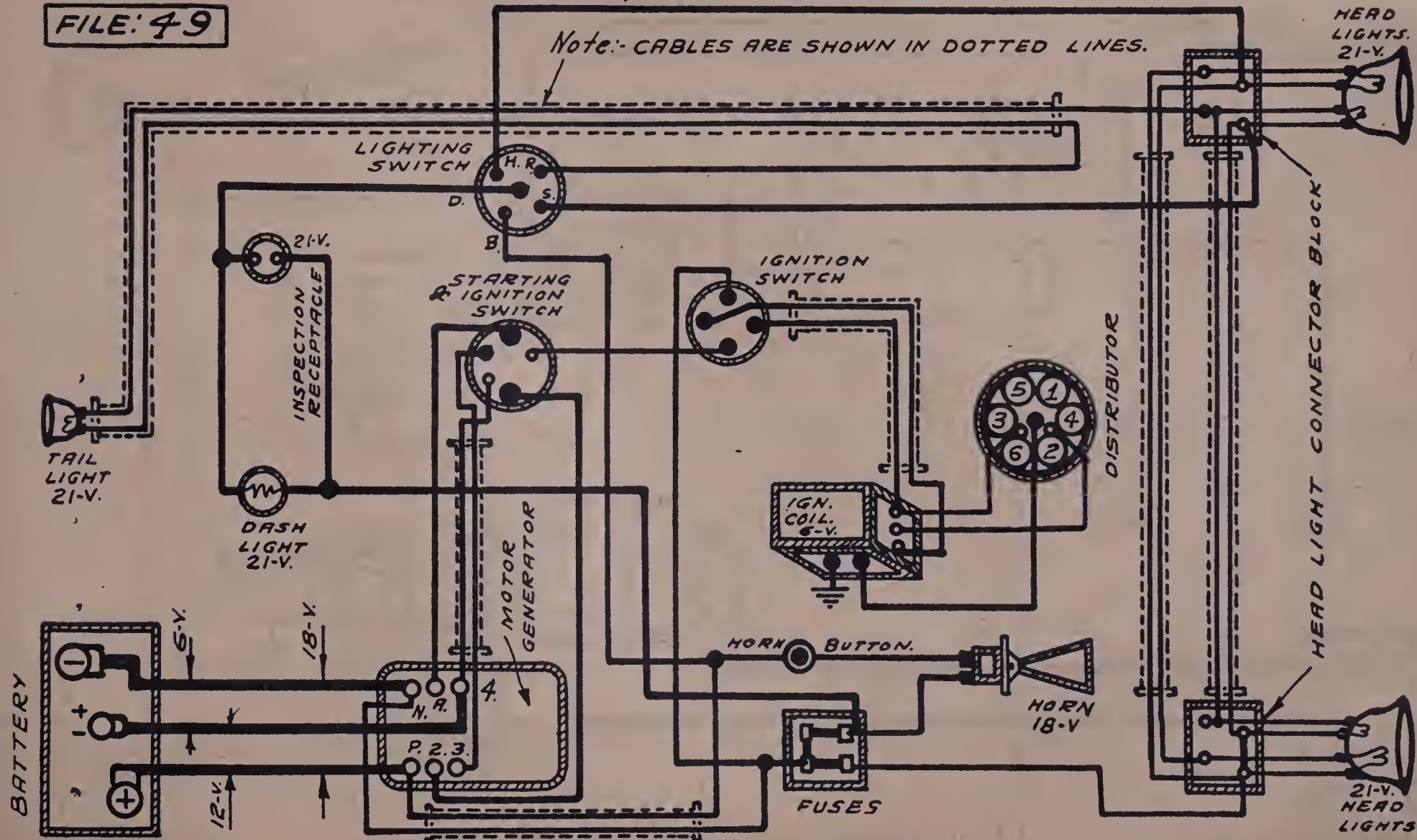
NEW CHALMERS - SIX:
18-VOLT, ENTZ SYSTEM.

1915

MODEL 26.

FILE: 49

Note: CABLES ARE SHOWN IN DOTTED LINES.



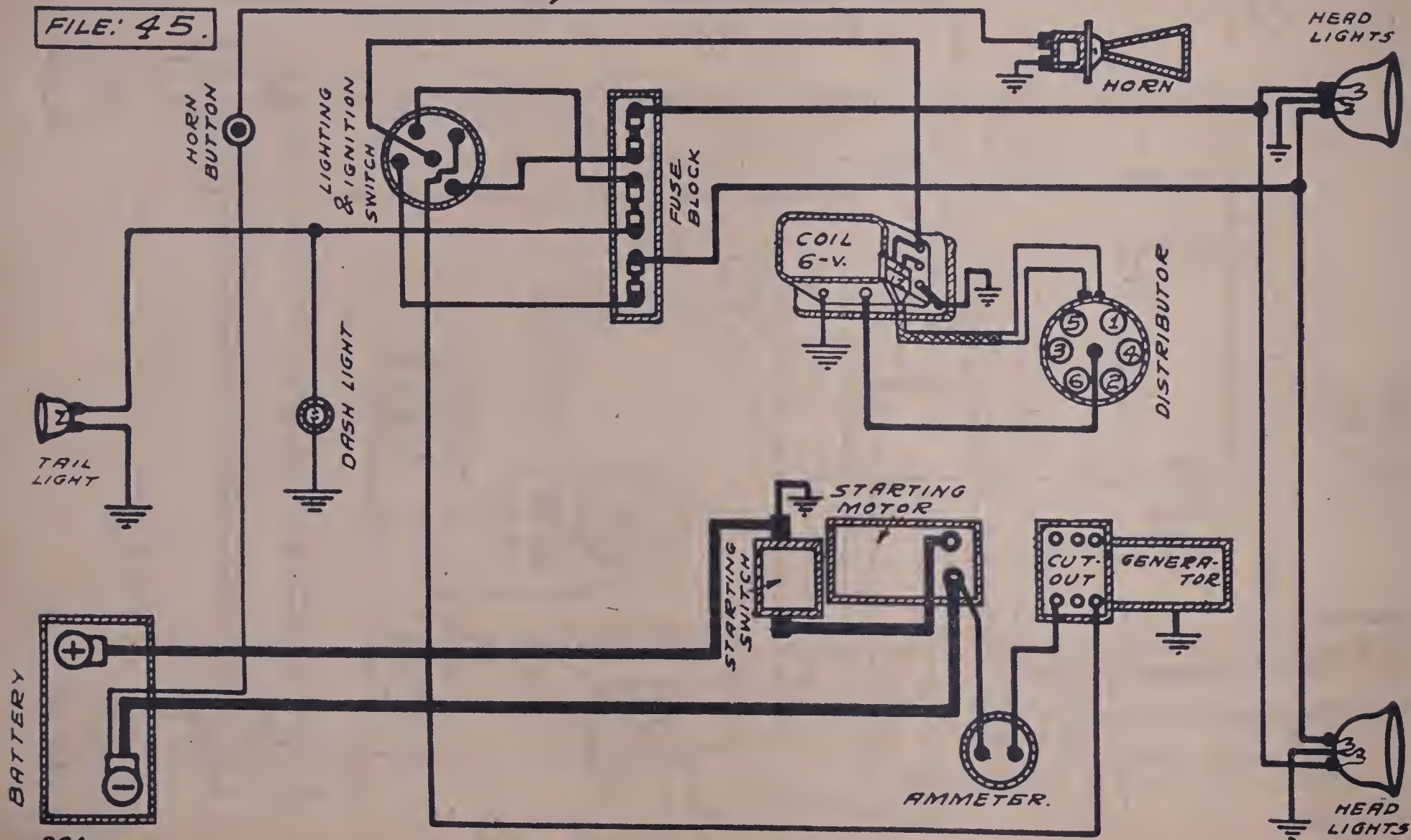
CHALMERS

1915-MODEL 32.

1916 MODEL 6-40

6-VOLT, WESTINGHOUSE SYSTEM.

FILE: 45.



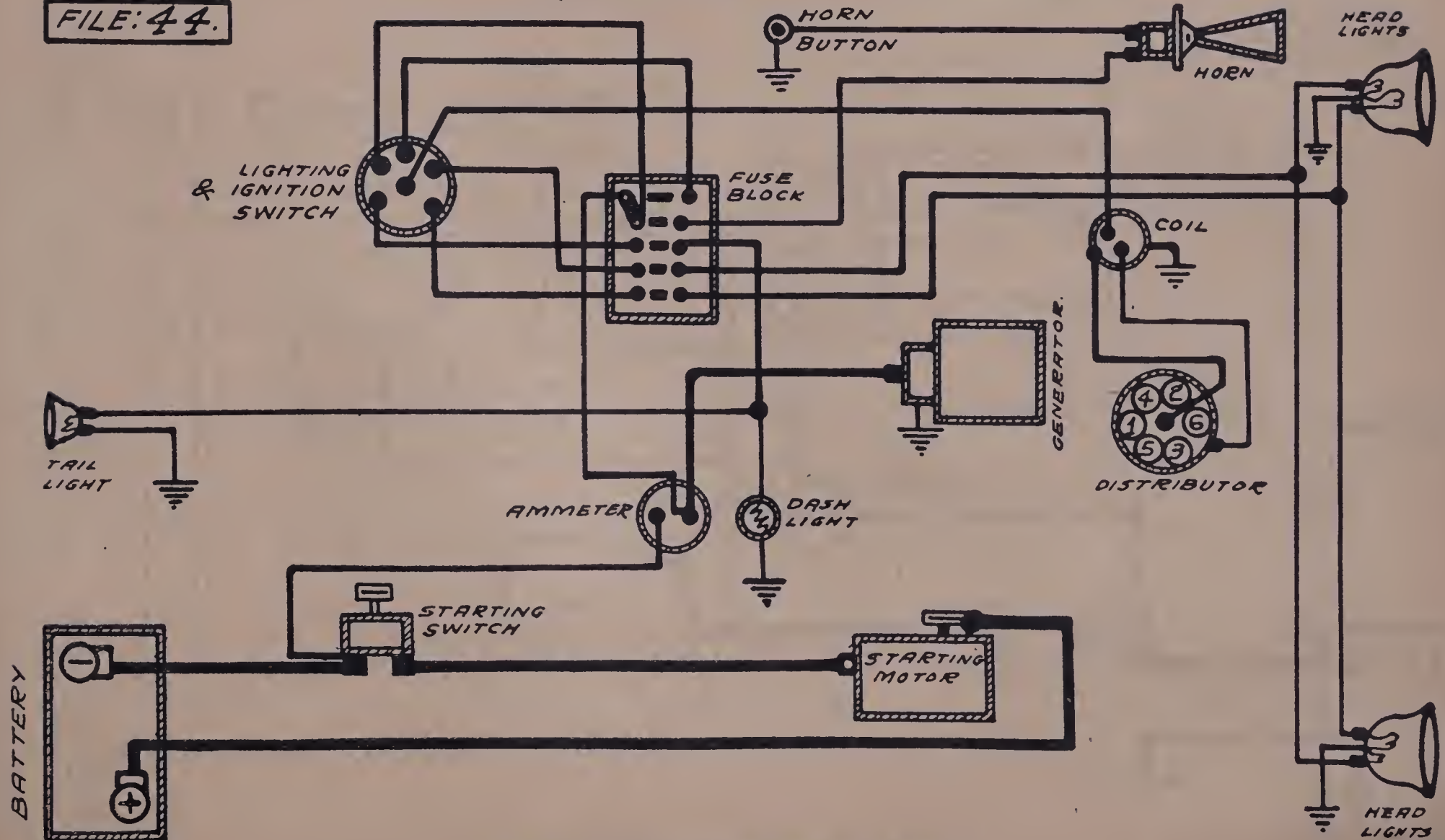
CHALMERS

1916

MODEL-35-A.

6-VOLT, WESTINGHOUSE SYSTEM.

FILE: 44.



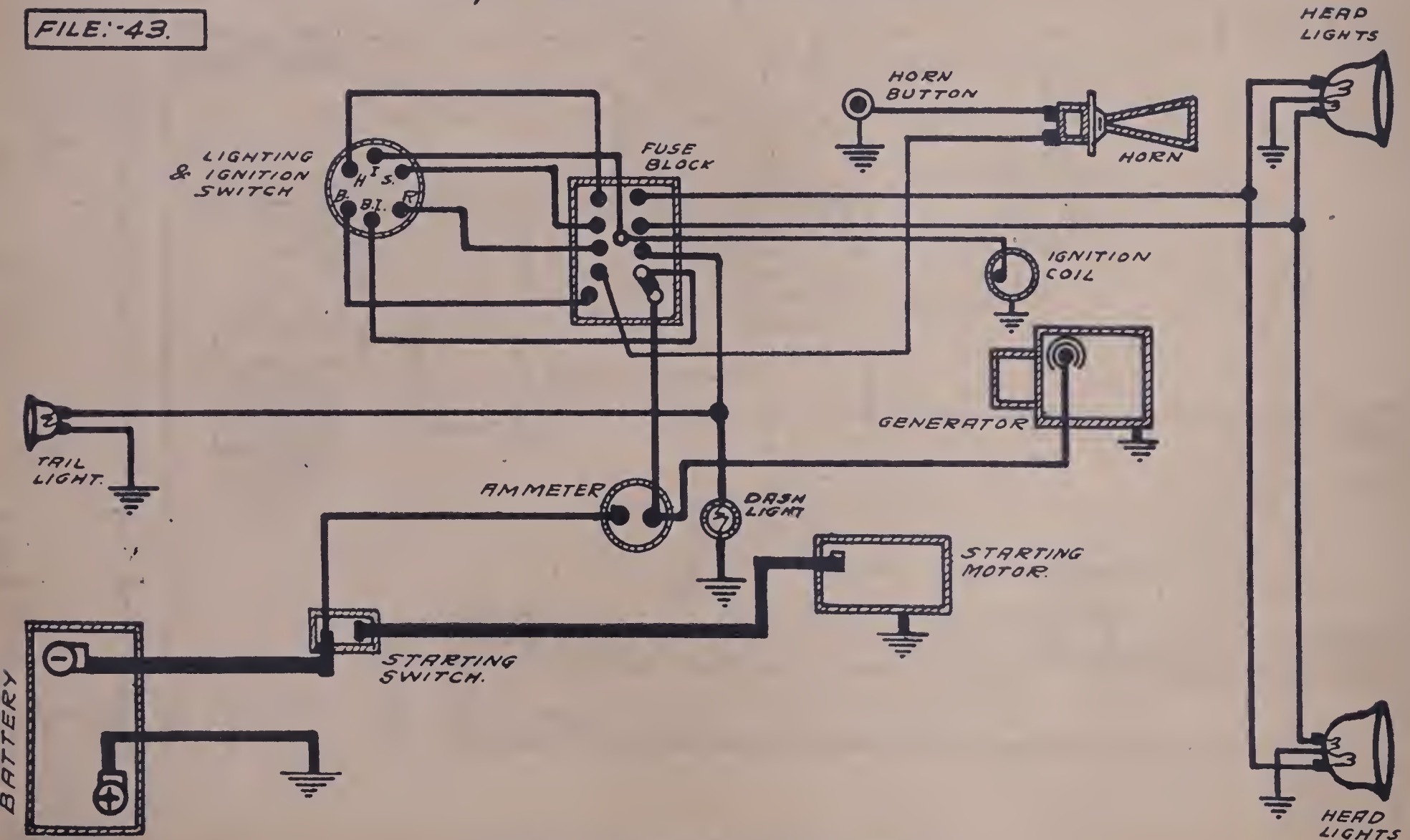
CHALMERS

1917

MODEL 35-B.

6-VOLT, - WESTINGHOUSE SYSTEM.

FILE: -43.

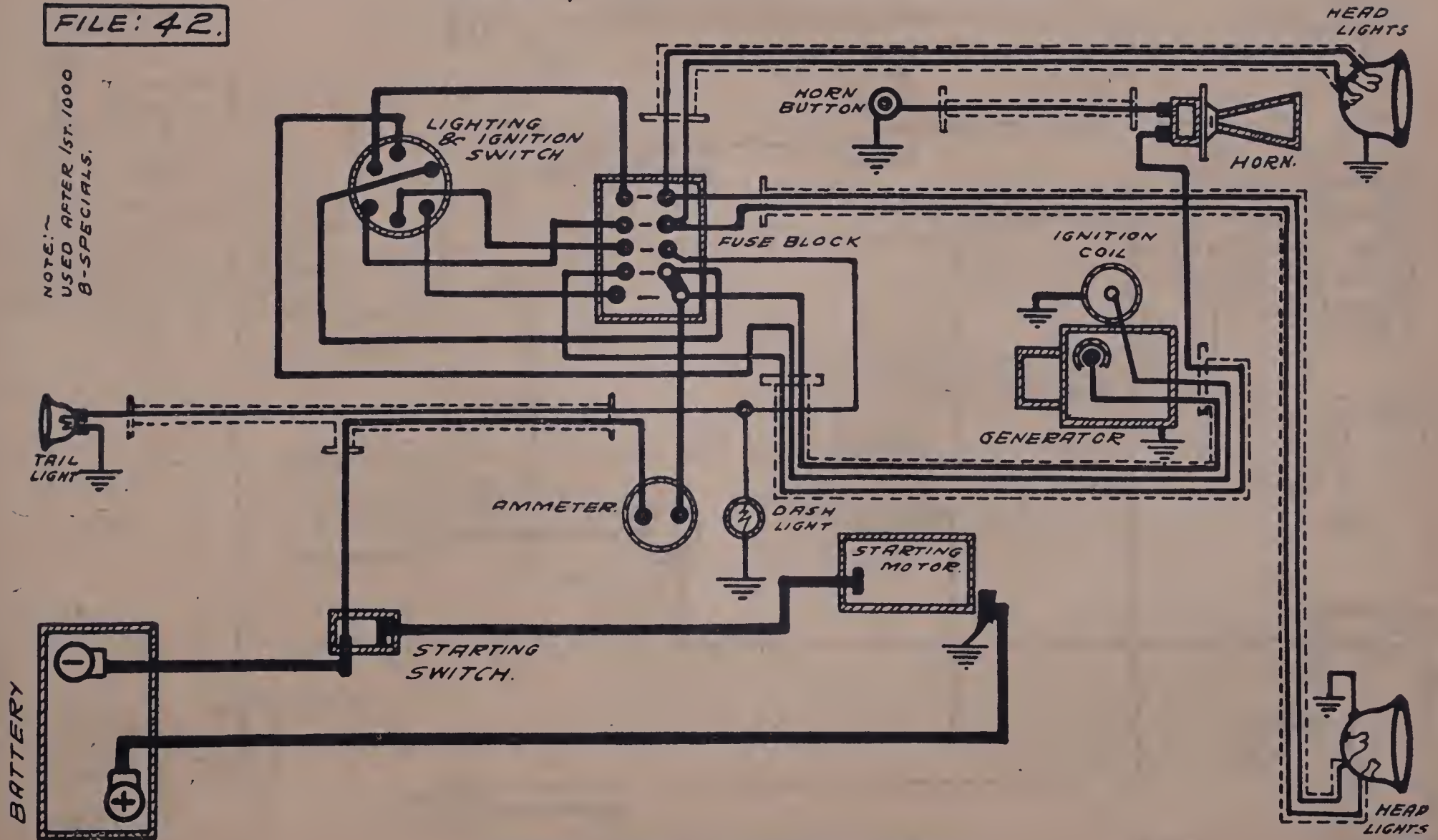


CHALMERS

1918-MODEL 35-C, — 1919-MODEL 6-30, — 1920-MODEL
6-VOLT, WESTINGHOUSE SYSTEM.

FILE: 42.

NOTE: ~
USED AFTER 1ST. 1000
B-SPECIALS.



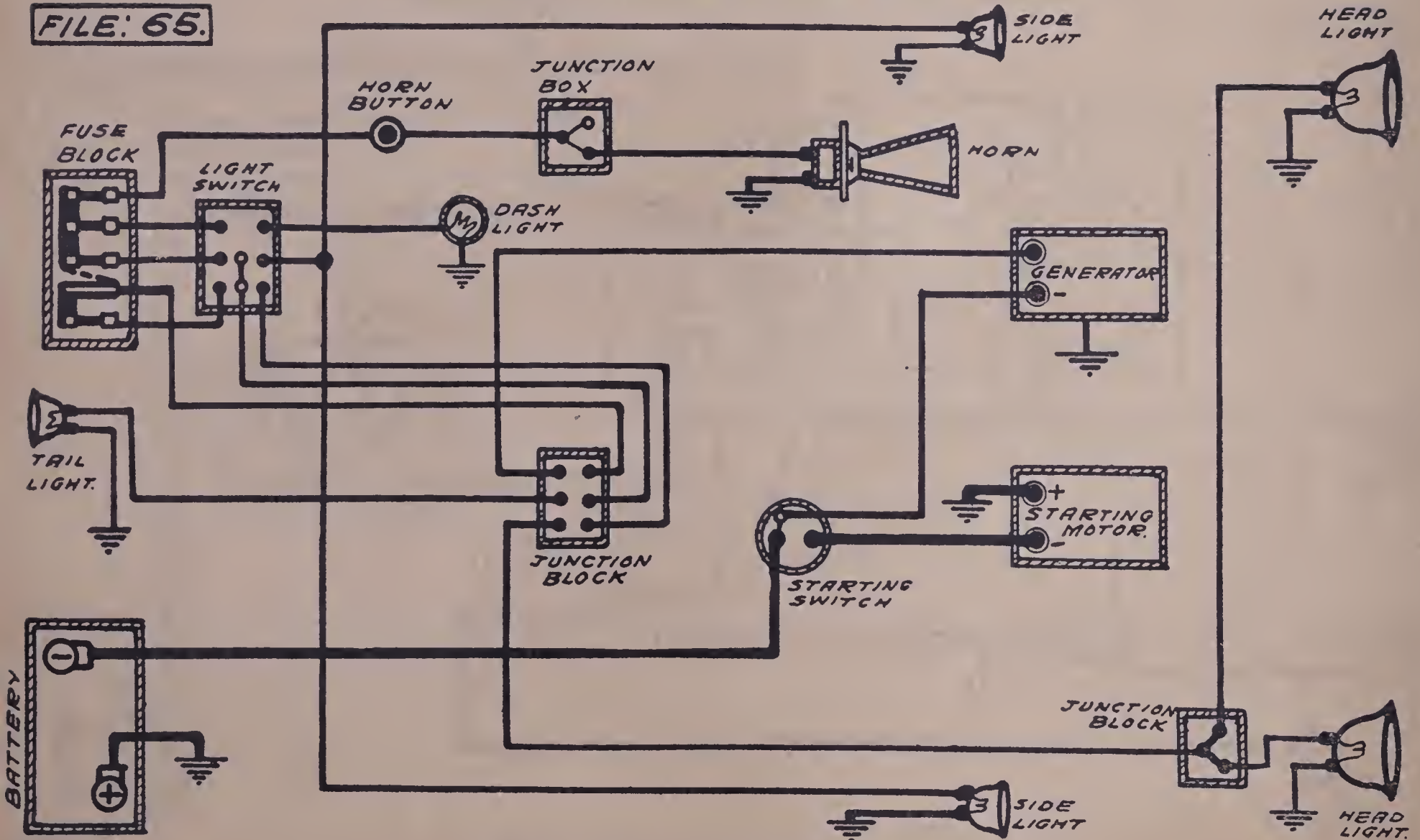
CHANDLER

1913

MODEL '14'

6-VOLT, - WESTINGHOUSE SYSTEM

FILE: 65.



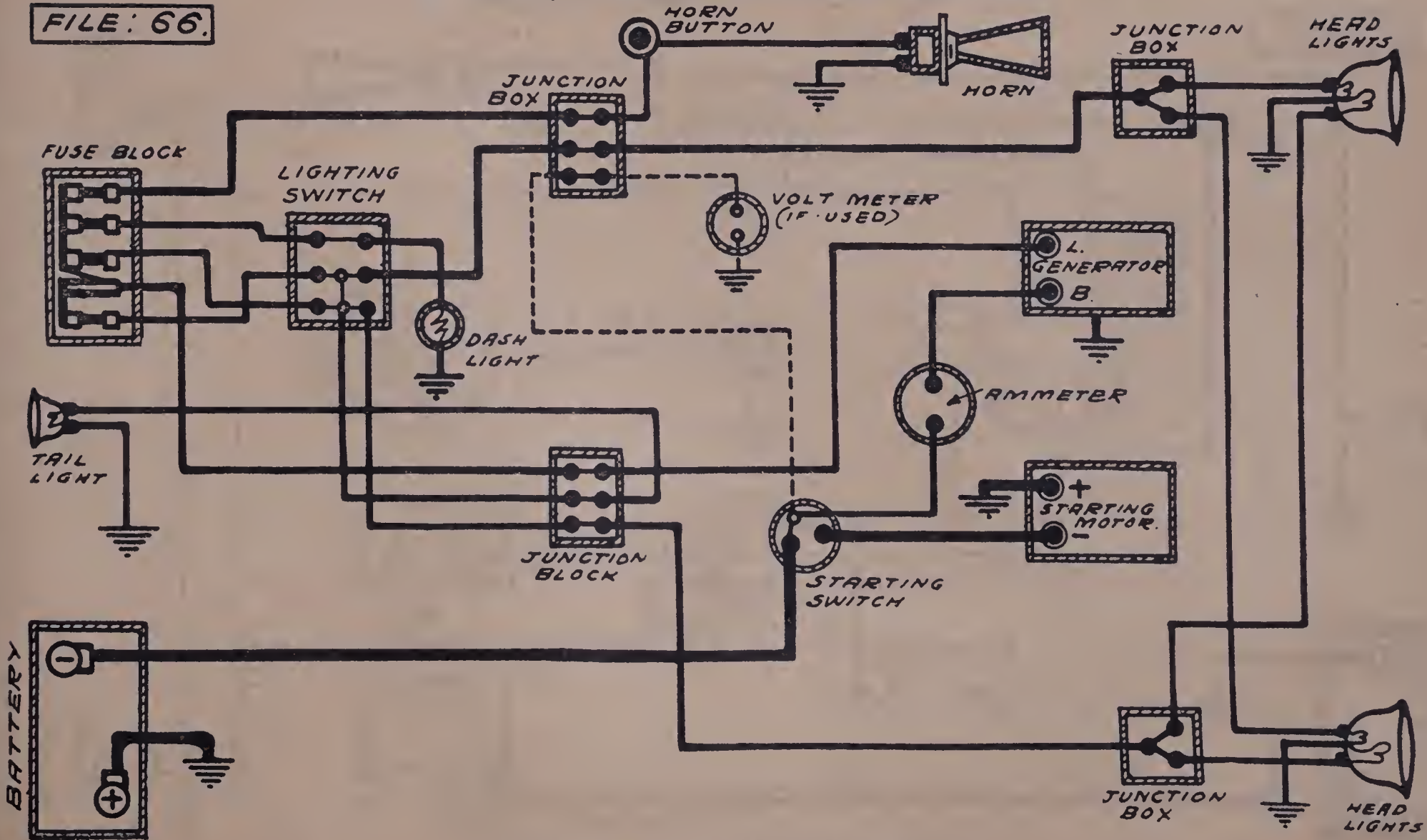
CHANDLER

1914

MODEL '15'

6-VOLT, - WESTINGHOUSE SYSTEM.

FILE: 66.



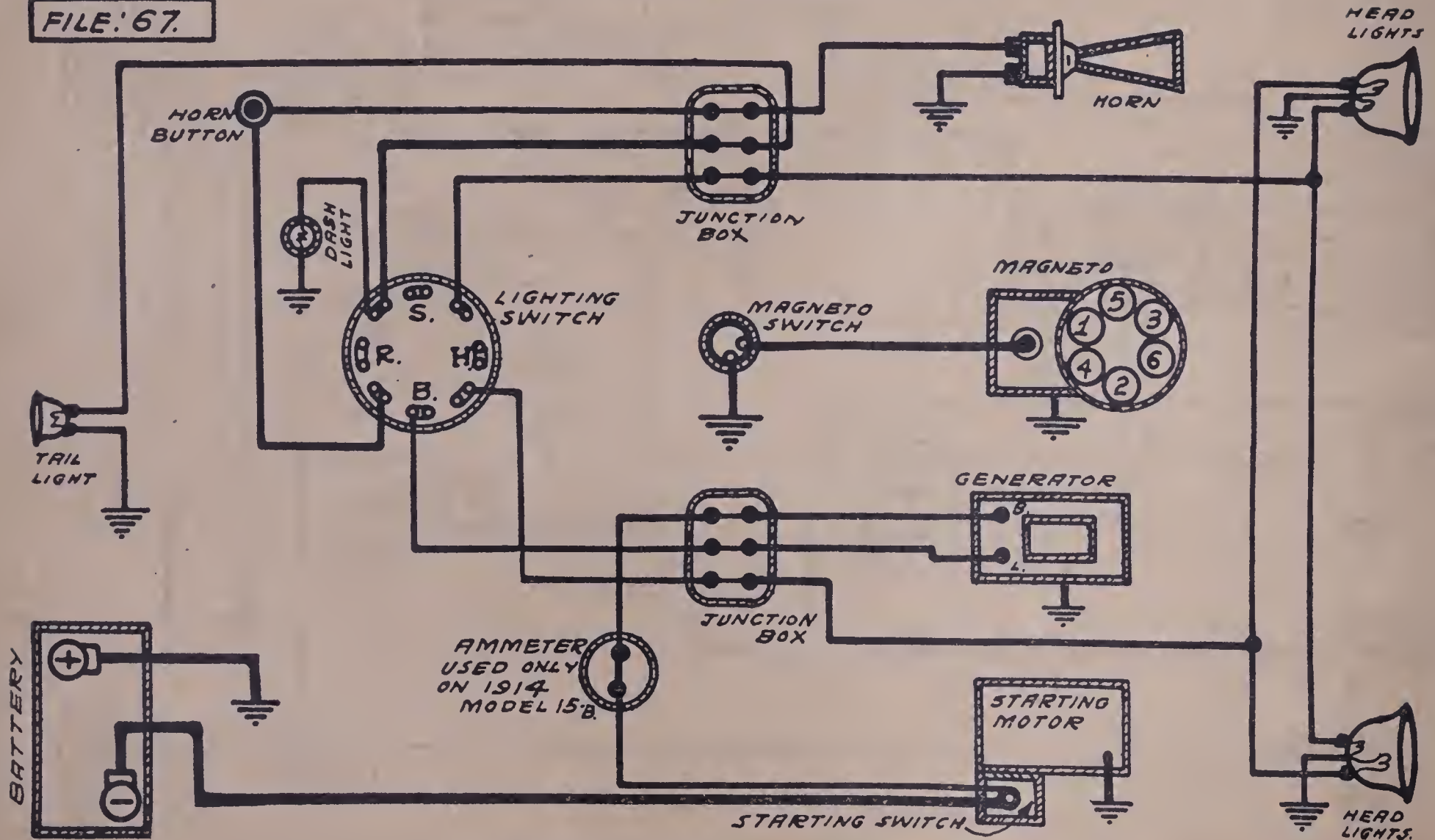
CHANDLER

1914,- MODEL '15-B'

1915,- MODEL '16.'

6-VOLT,- GRAY & DAVIS SYSTEM

FILE: 67.

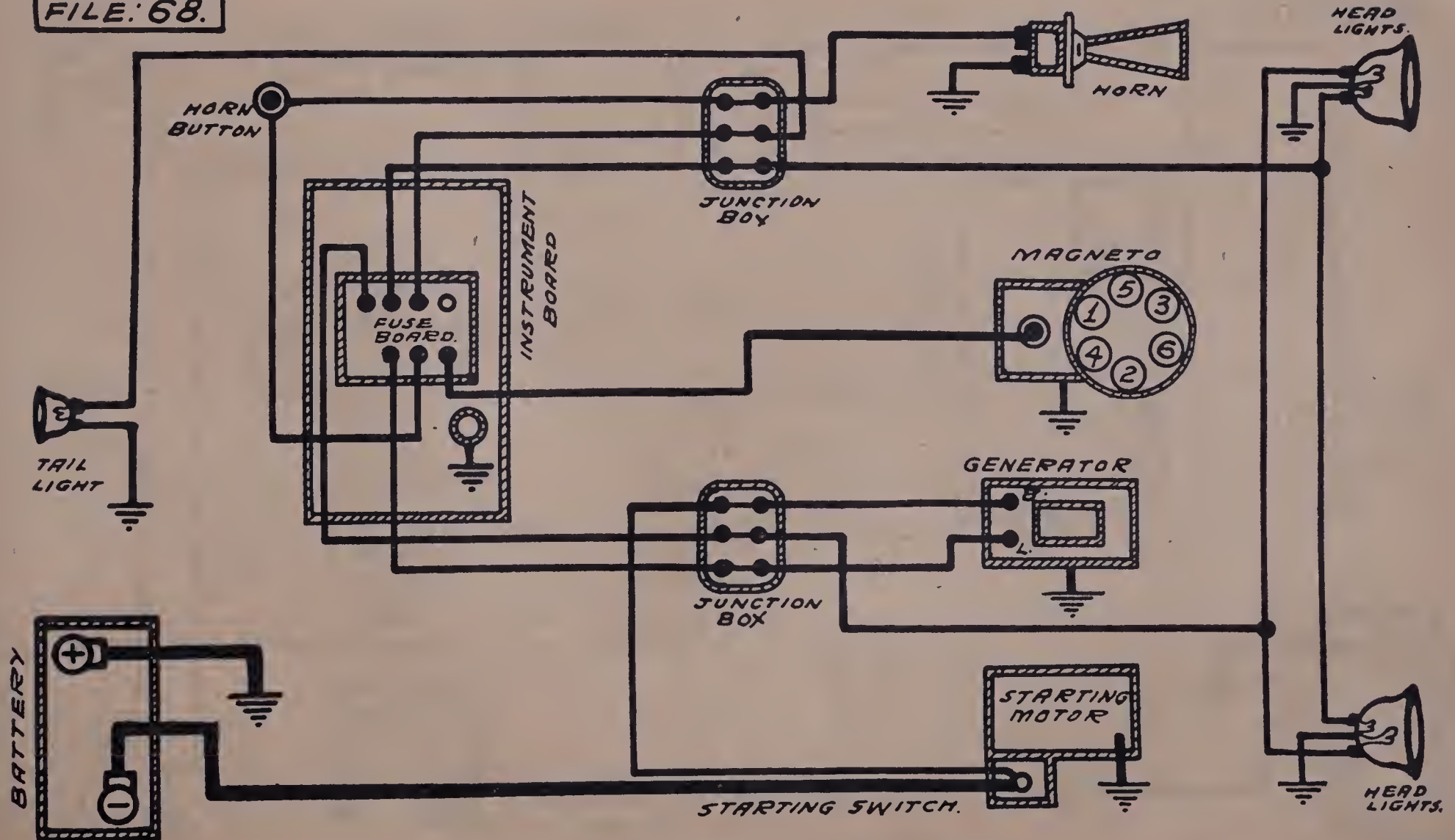


CHANDLER

1916

MODEL - 17-
6-VOLT, - GRAY & DAVIS SYSTEM.

FILE: 68.

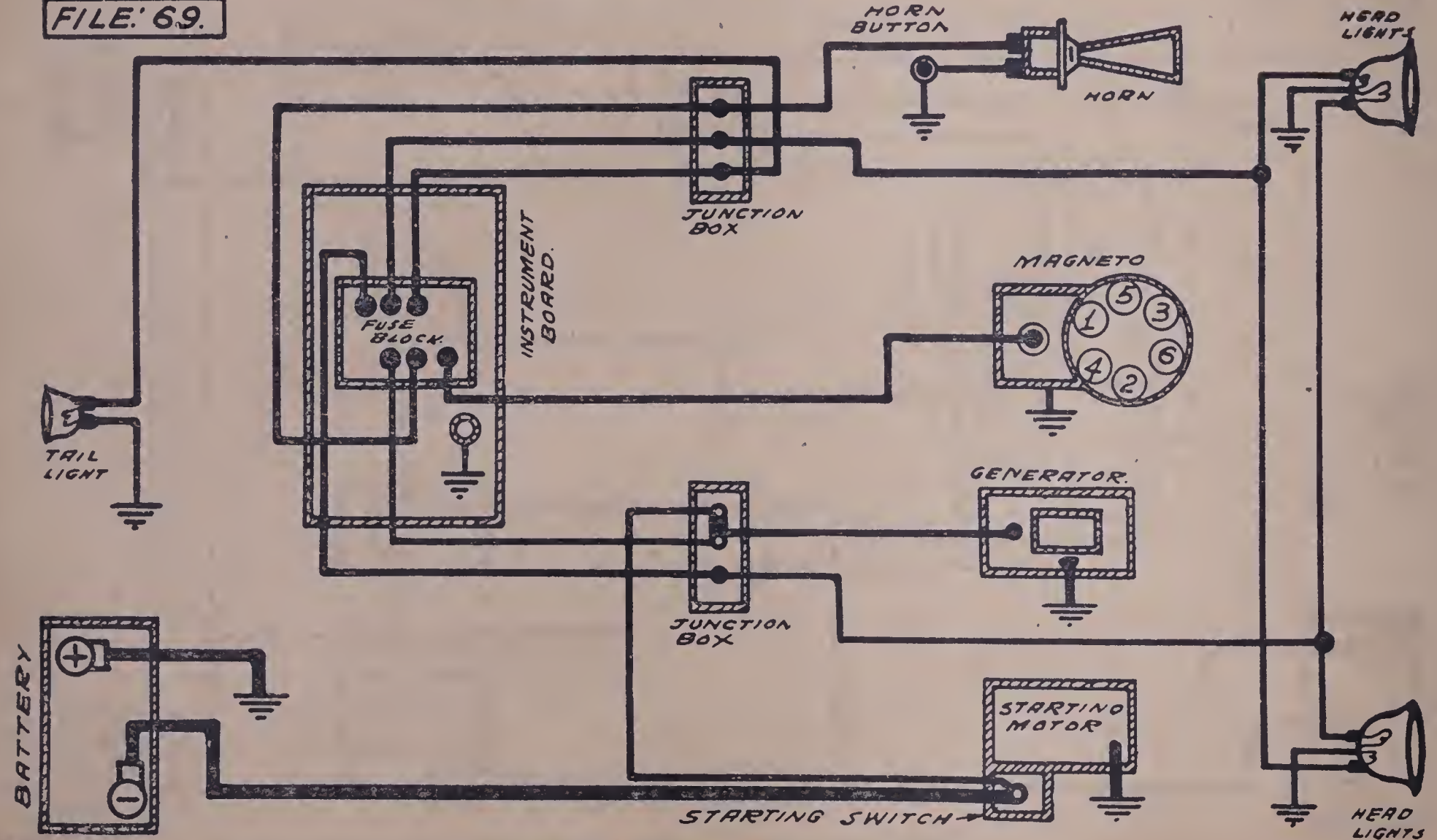


CHANDLER

1917-1918

MODEL -17-
6-VOLT, - GRAY & DAVIS SYSTEM.

FILE: 69.

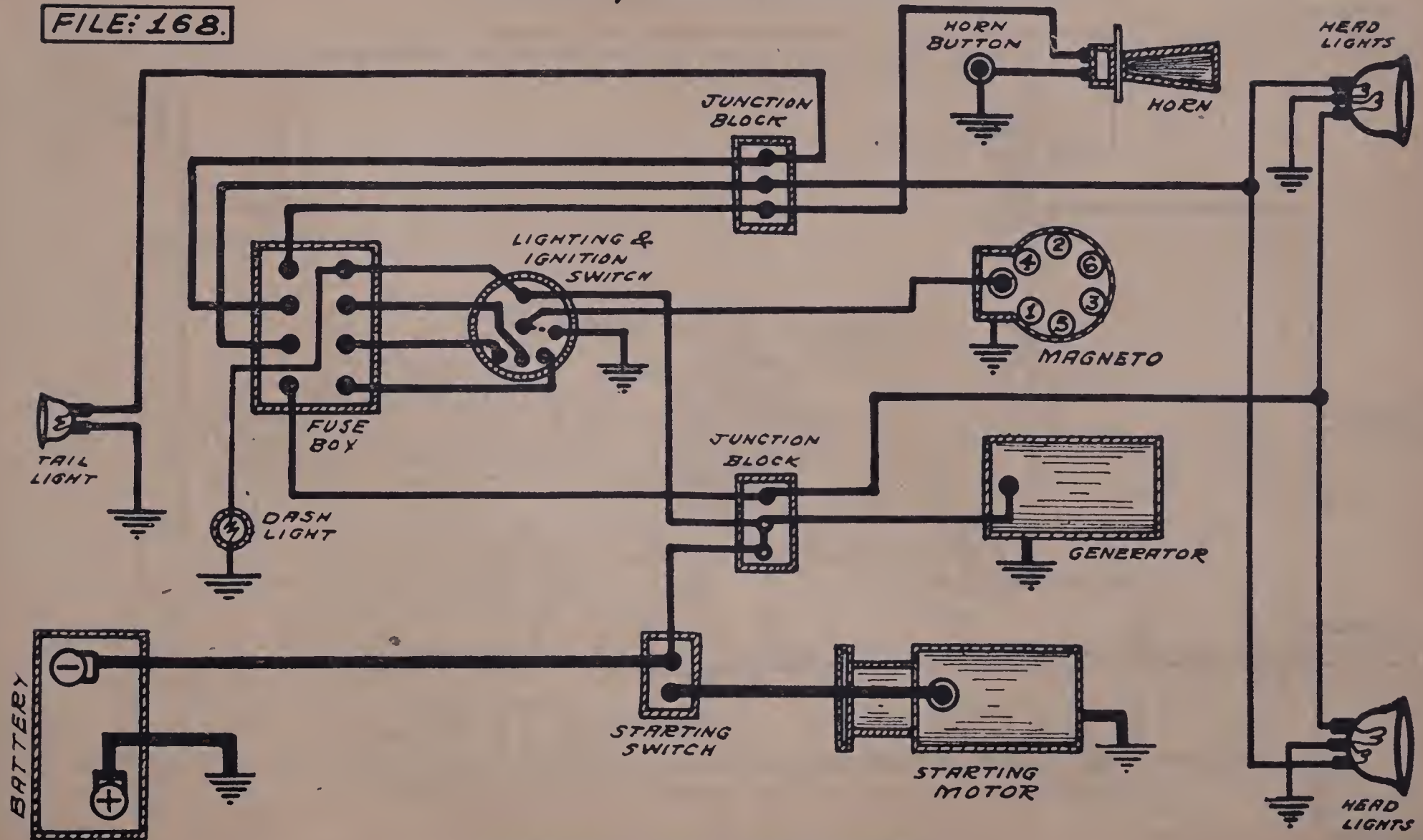


CHANDLER

1919-1920.

MODEL-6:
6-VOLT,- WESTINGHOUSE SYSTEM.

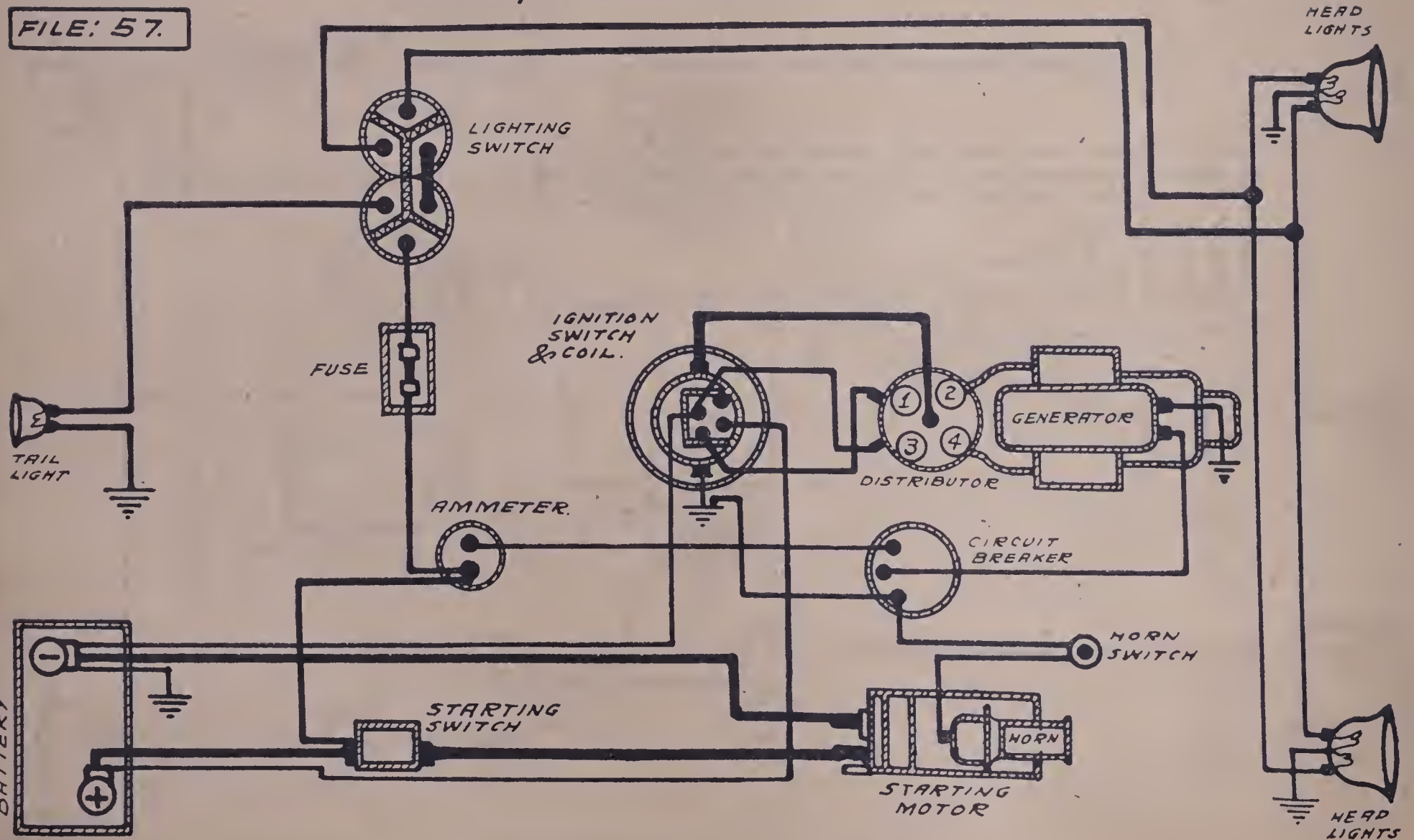
FILE: 168.



CHEVROLET

1915 MODELS, H-2, H-3, H-4. FIRST PART OF SEASON
6-VOLT, -AUTOLITE SYSTEM.

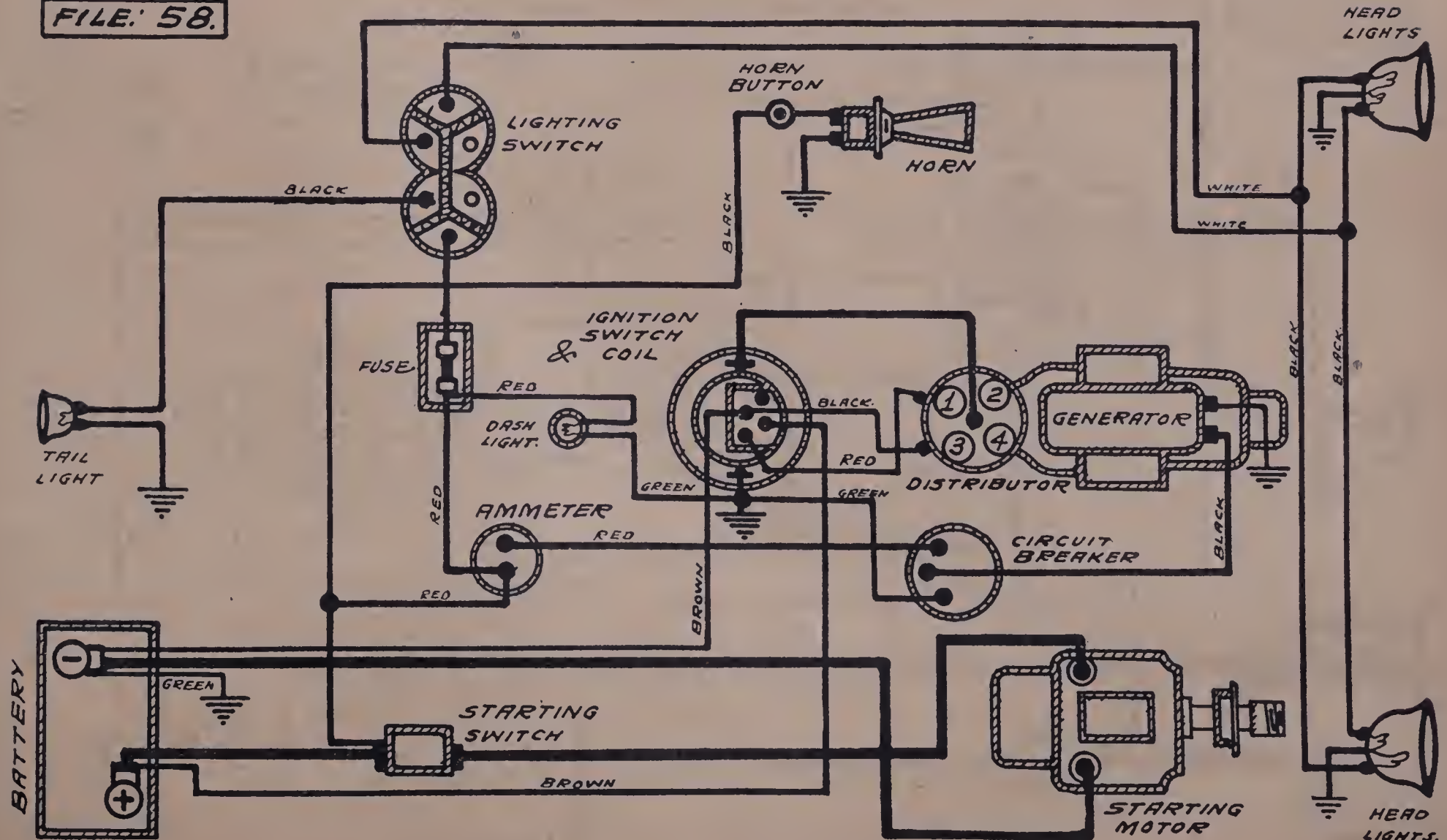
FILE: 57.



CHEVROLET

1915 MODELS, H-2, H-3, H-4. MIDDLE OF SEASON
6-VOLT, -AUTOLITE SYSTEM.

FILE: 58.



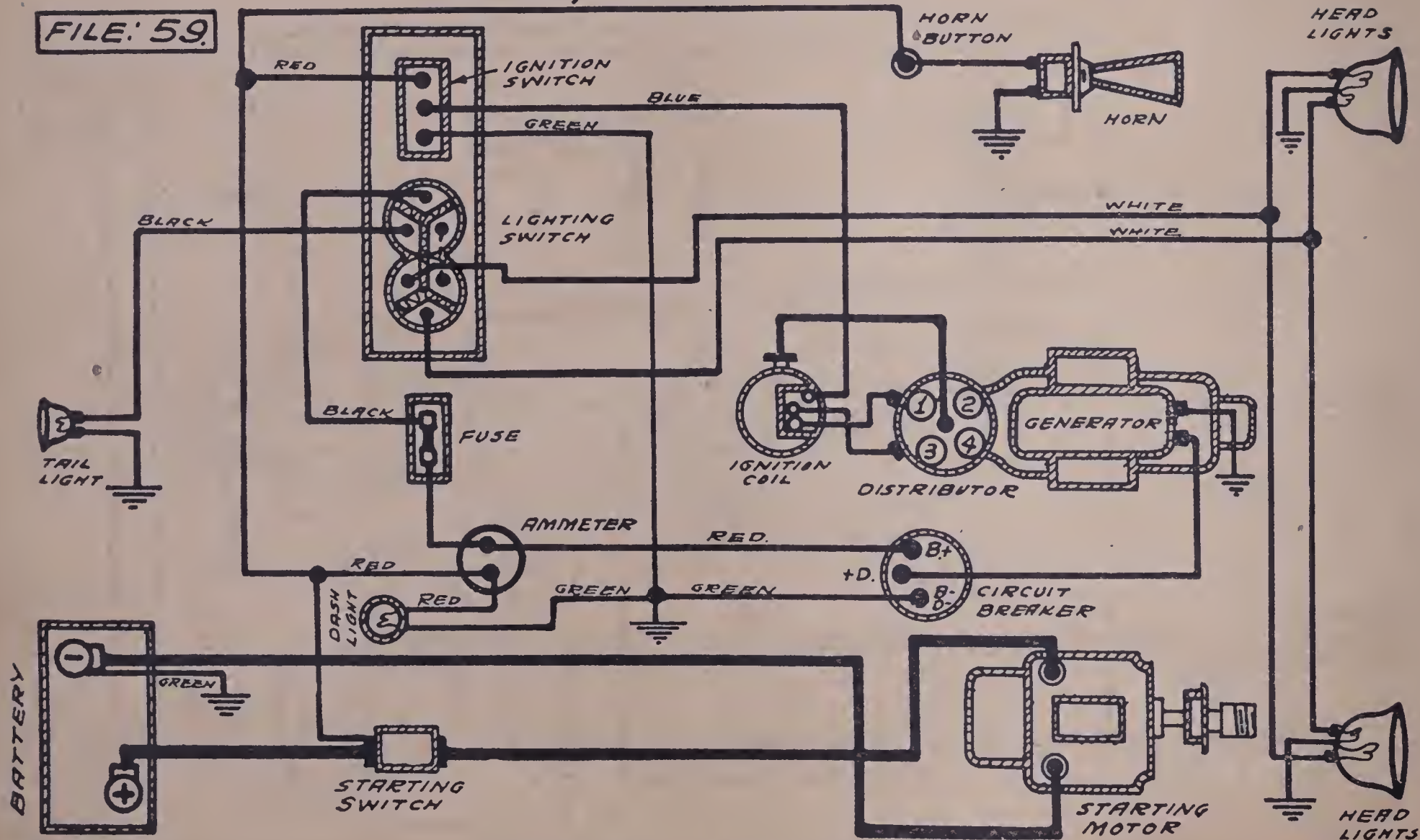
CHEVROLET

1916

MODELS, H-2, H-2½, H-4.

6-VOLT, - AUTOLITE SYSTEM.

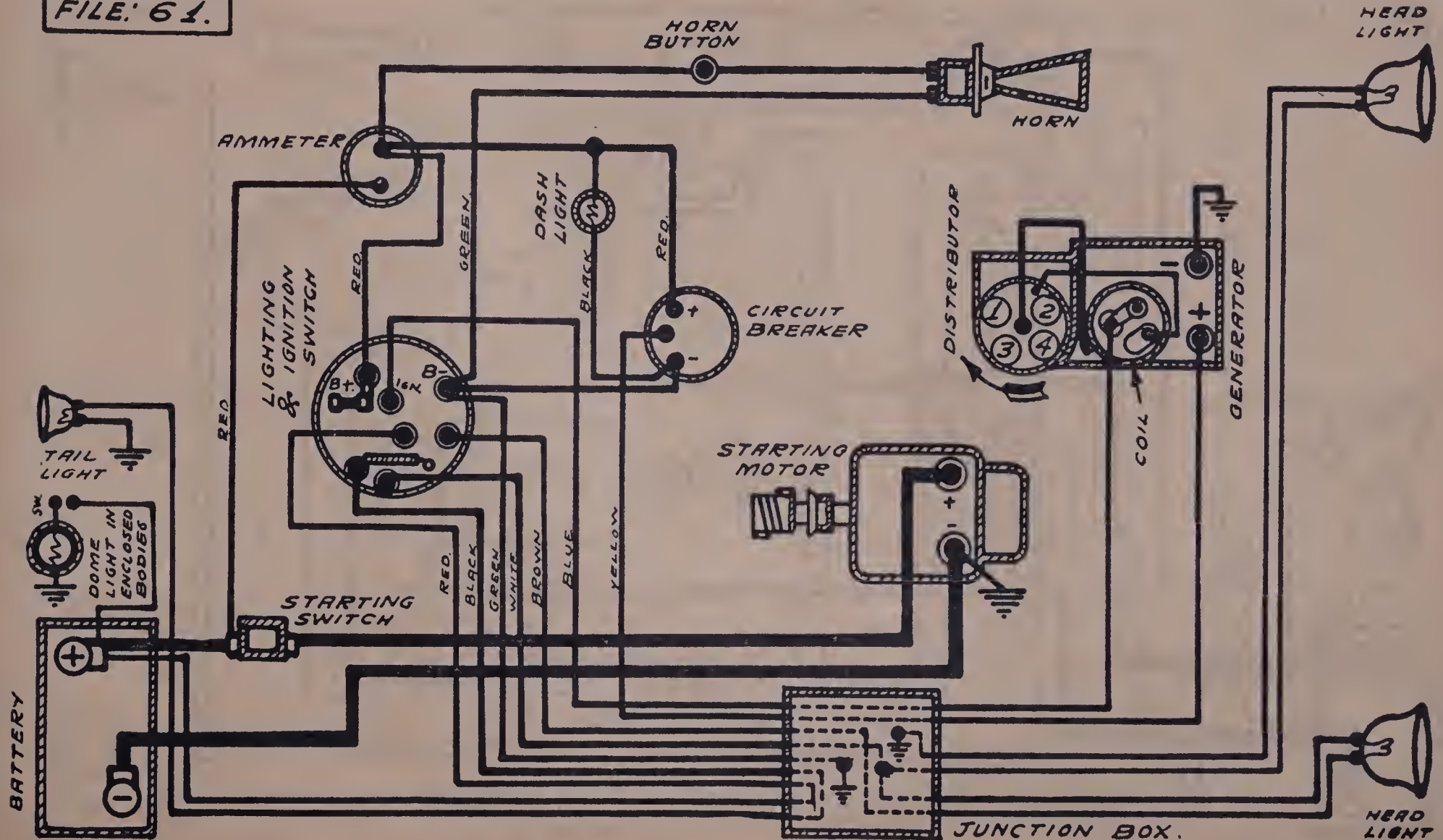
FILE: 59.



CHEVROLET

1917-1918.
ALL MODEL 'F-B' CARS.
6-VOLT, - AUTOLITE SYSTEM.

FILE: 61.



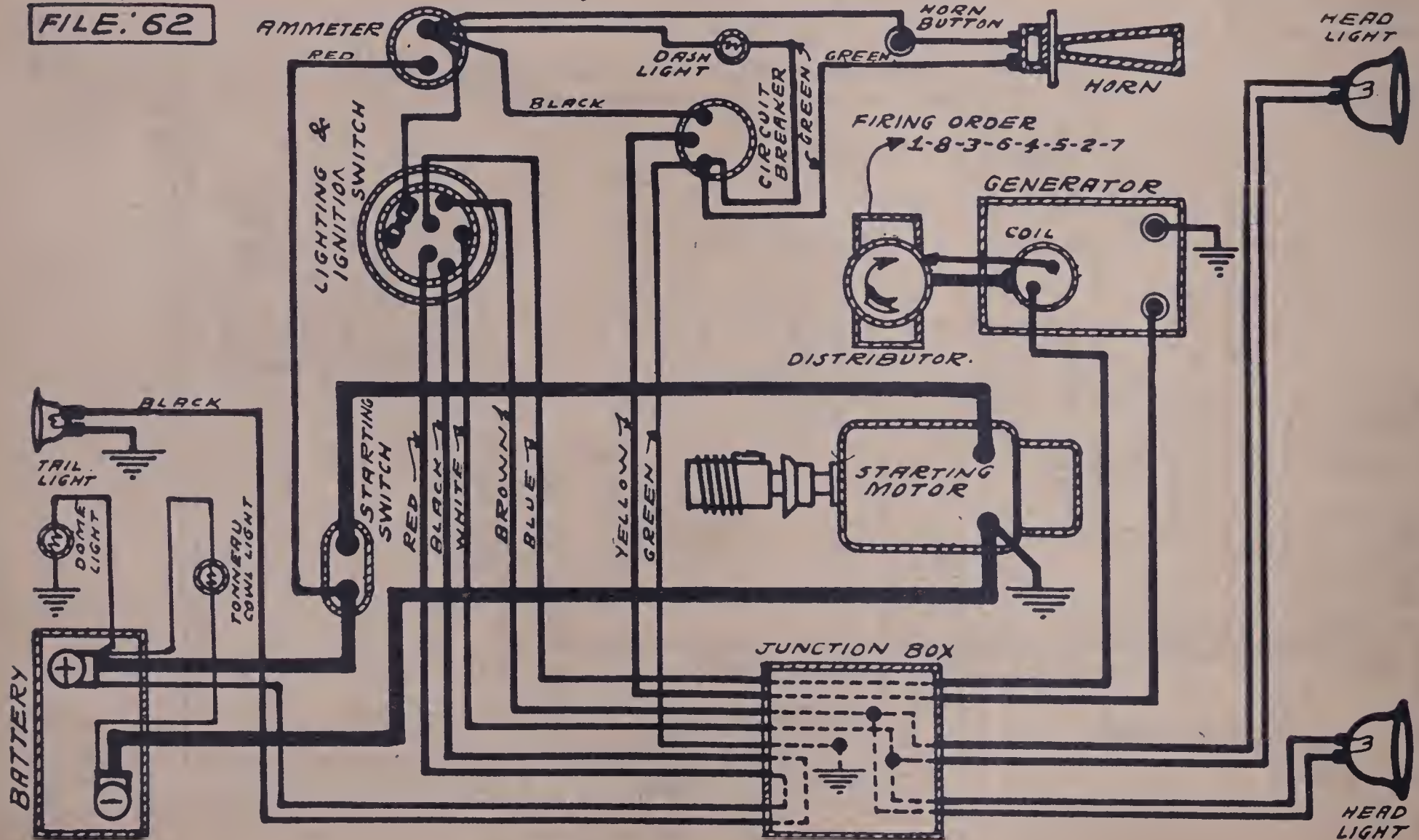
CHEVROLET

1918, 1919, 1920

MODEL D-CARS.

6-VOLT, AUTOLITE SYSTEM.

FILE: 62

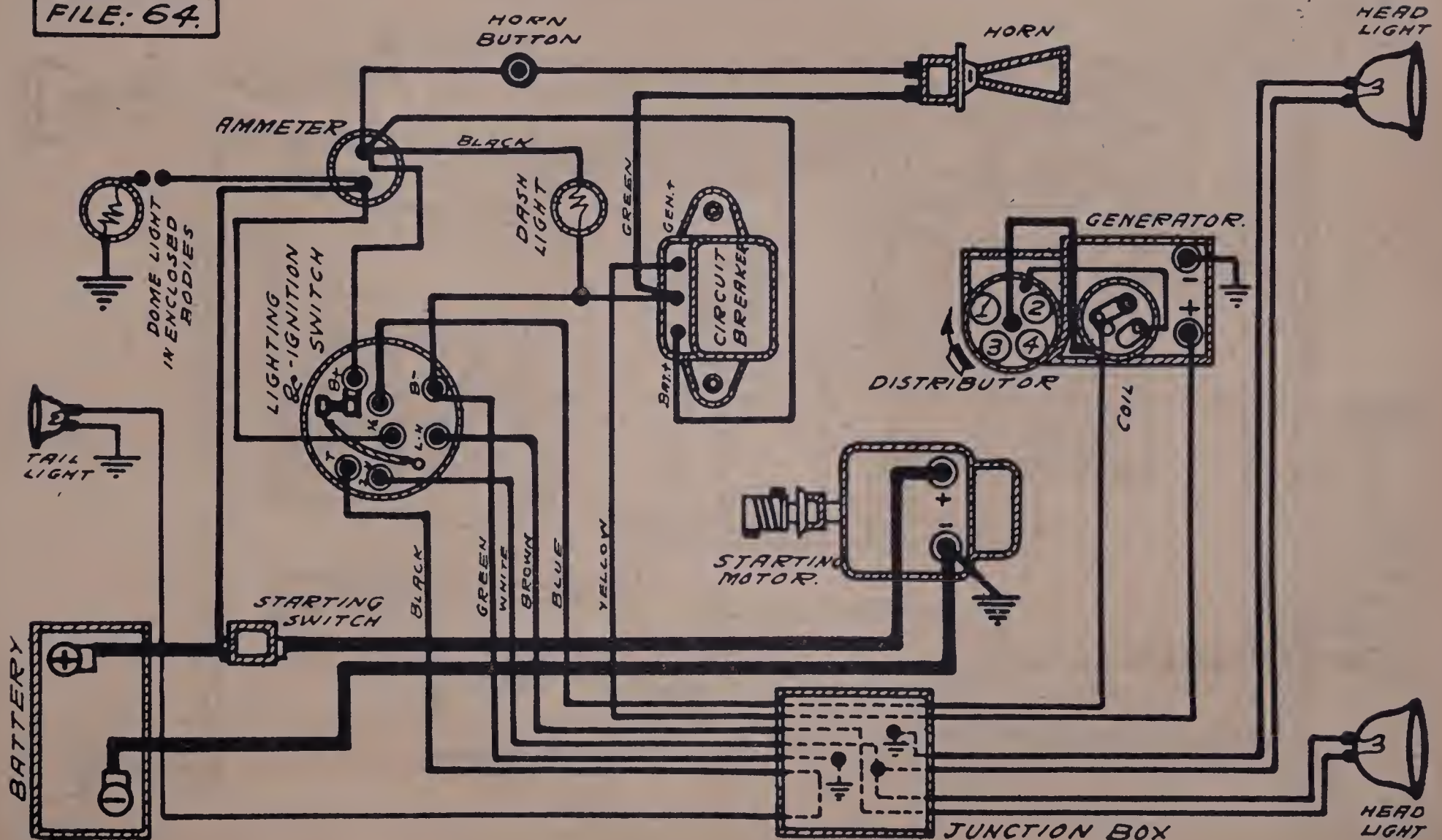


CHEVROLET

1919, 1920

ALL MODEL 'F-B' CARS.
6-VOLT, - AUTOLITE SYSTEM.

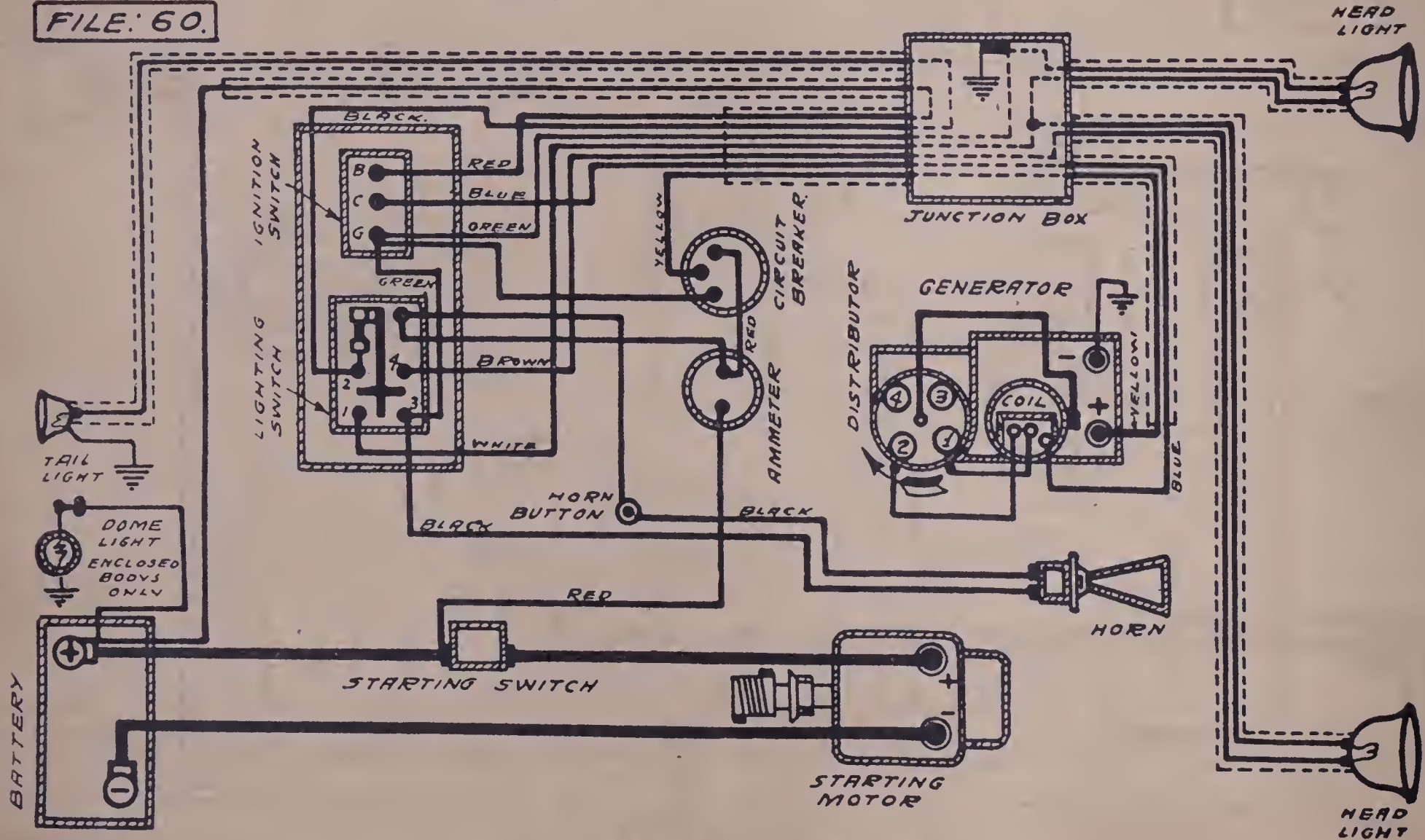
FILE: 64.



CHEVROLET

MODEL 490. WIRING FOR CARS EQUIPPED WITH TWO CABLES
FROM STARTING MOTOR TO BATTERY
6-VOLT, -AUTOLITE SYSTEM.

FILE: 60.

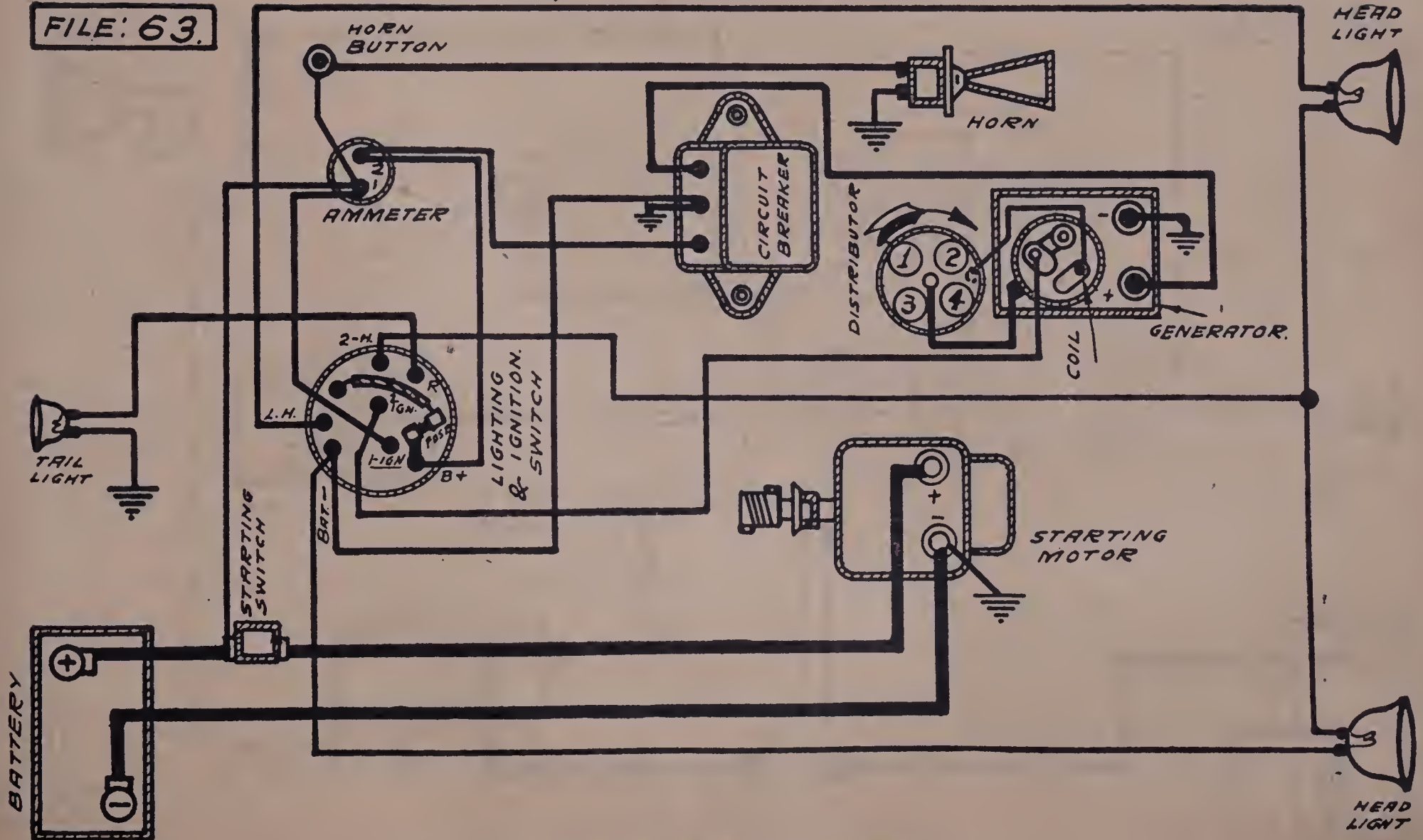


CHEVROLET TRUCK

MODEL 'T'

6-VOLT, - AUTOLITE SYSTEM.

FILE: 63.



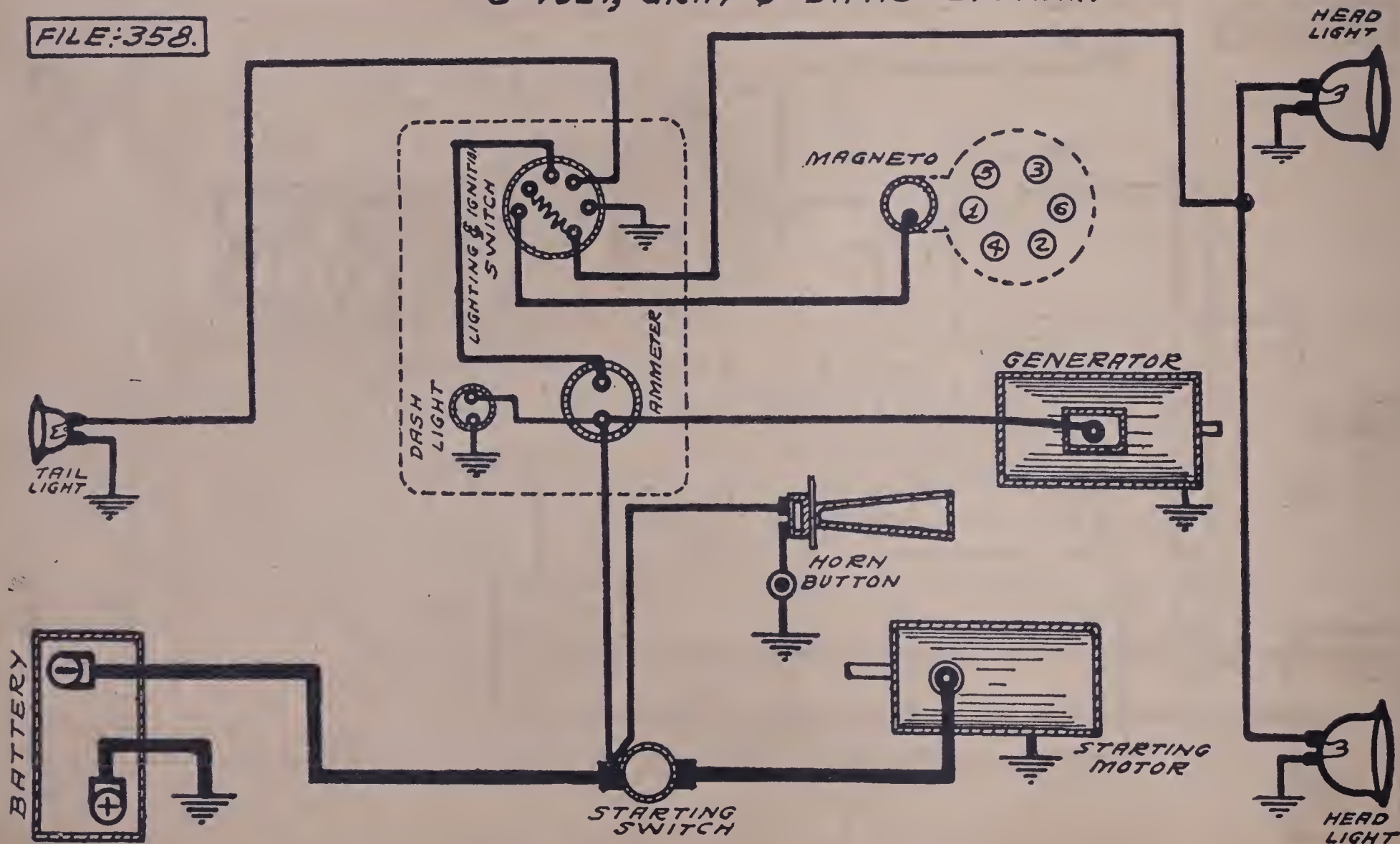
CLEVELAND

1919

MODEL SIX

6-VOLT, GRAY & DAVIS SYSTEM.

FILE: 358.

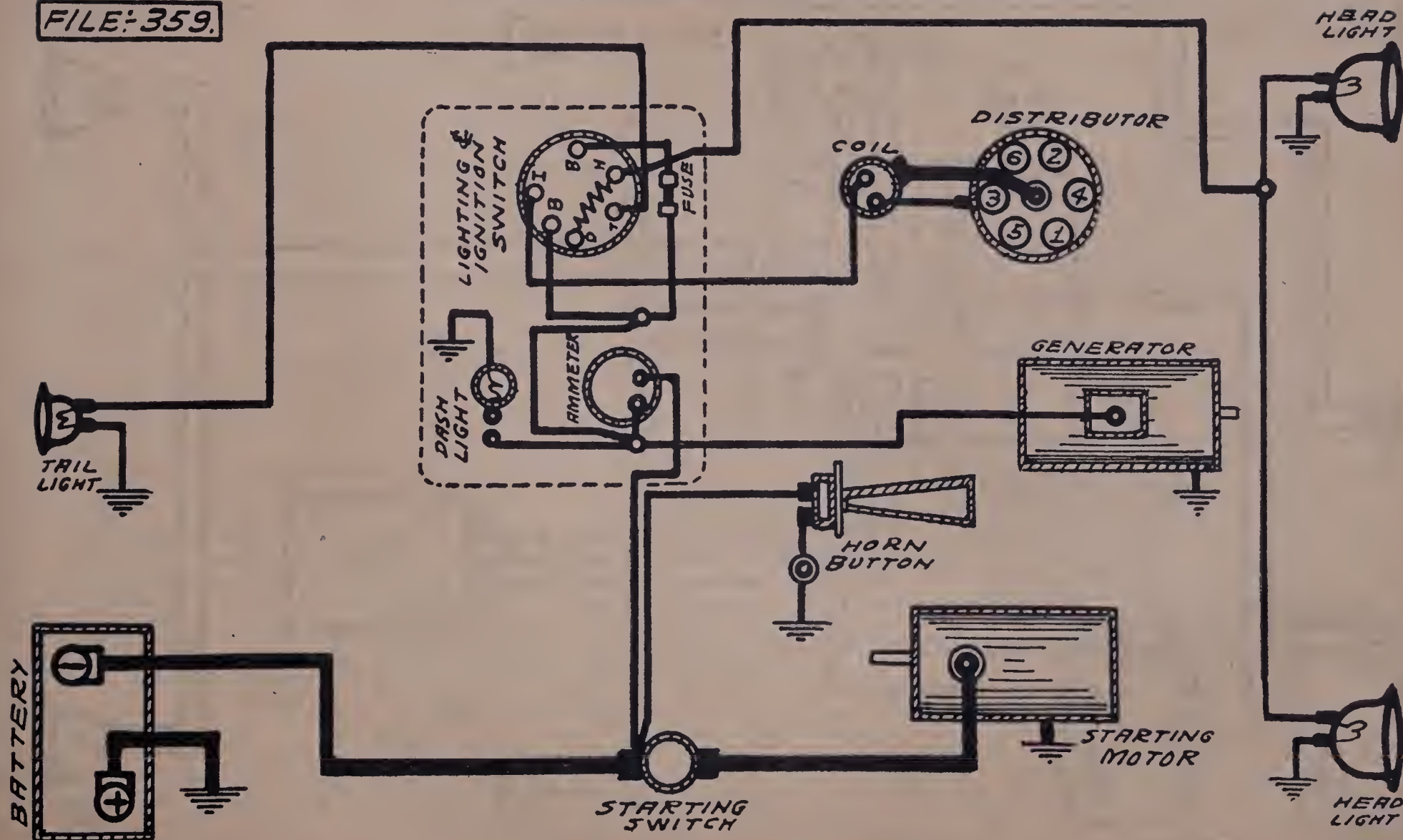


1920

CLEVELAND

MODEL SIX
6-VOLT, GRAY & DAVIS SYSTEM.

FILE: 359.

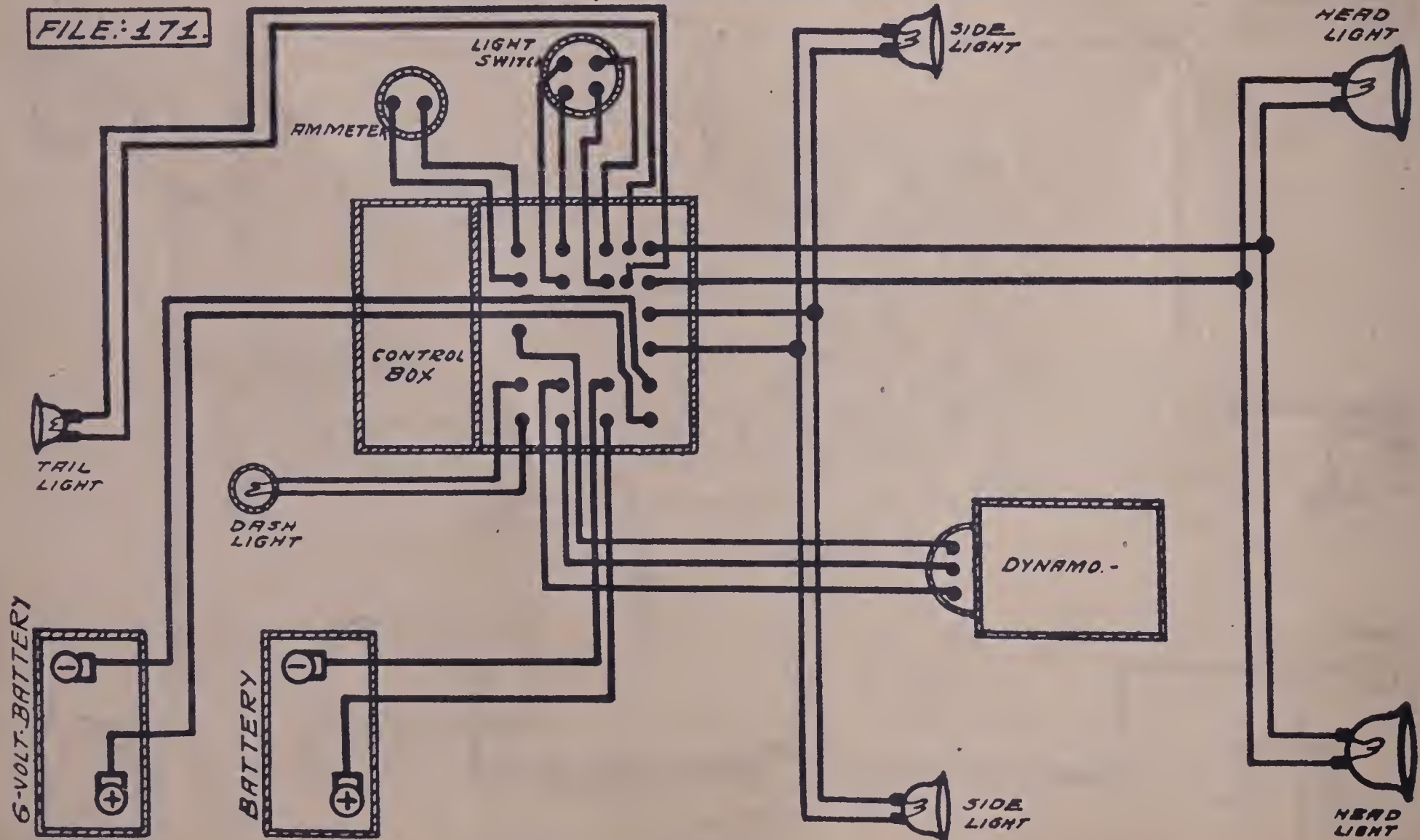


COLE

1912 -

MODEL 30-40.

6-12-VOLT, WARD-LEONARD SYSTEM.



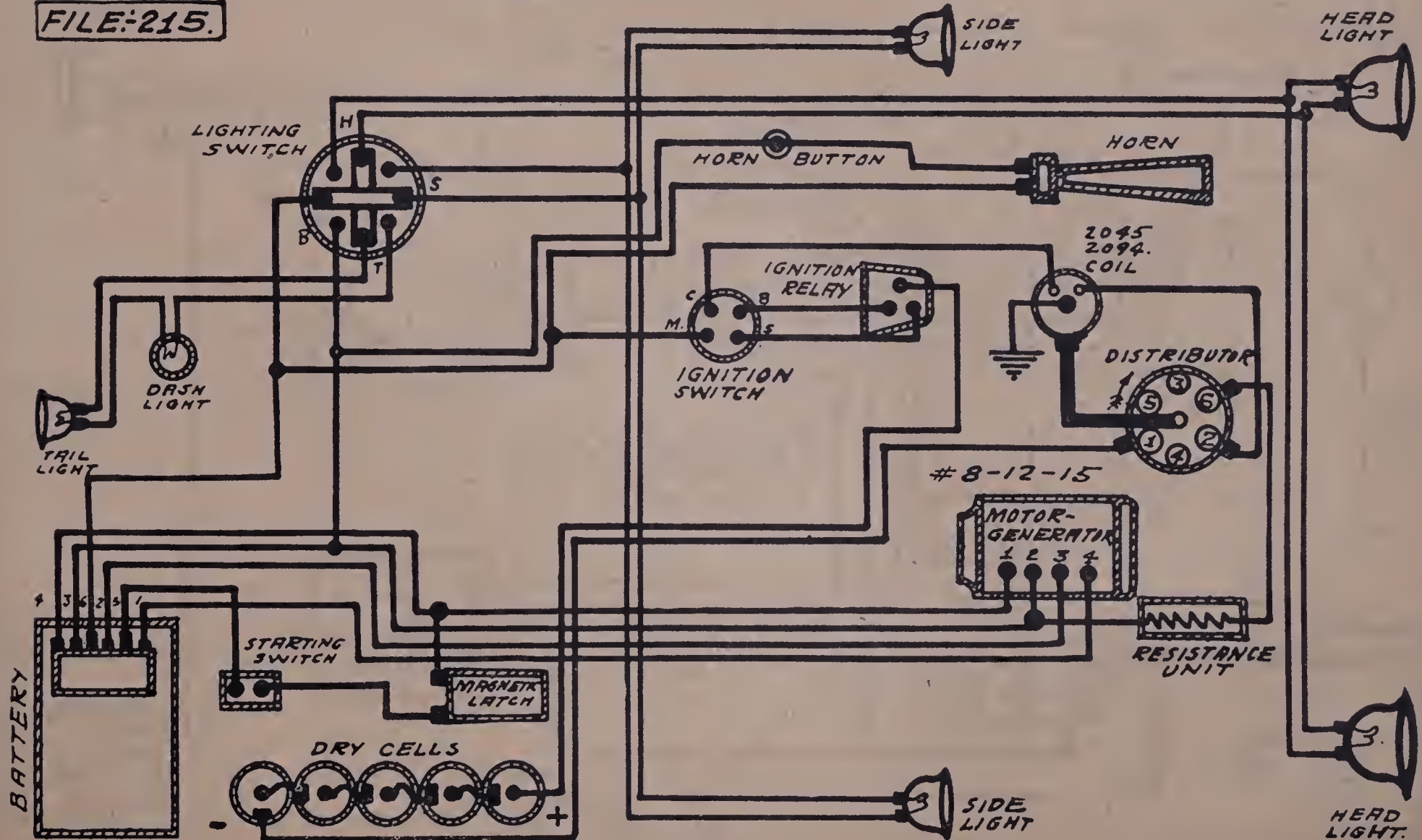
COLE

1913

MODELS 4-40, 4-50-6-60

6-24-VOLT, DELCO SYSTEM.

FILE:215.



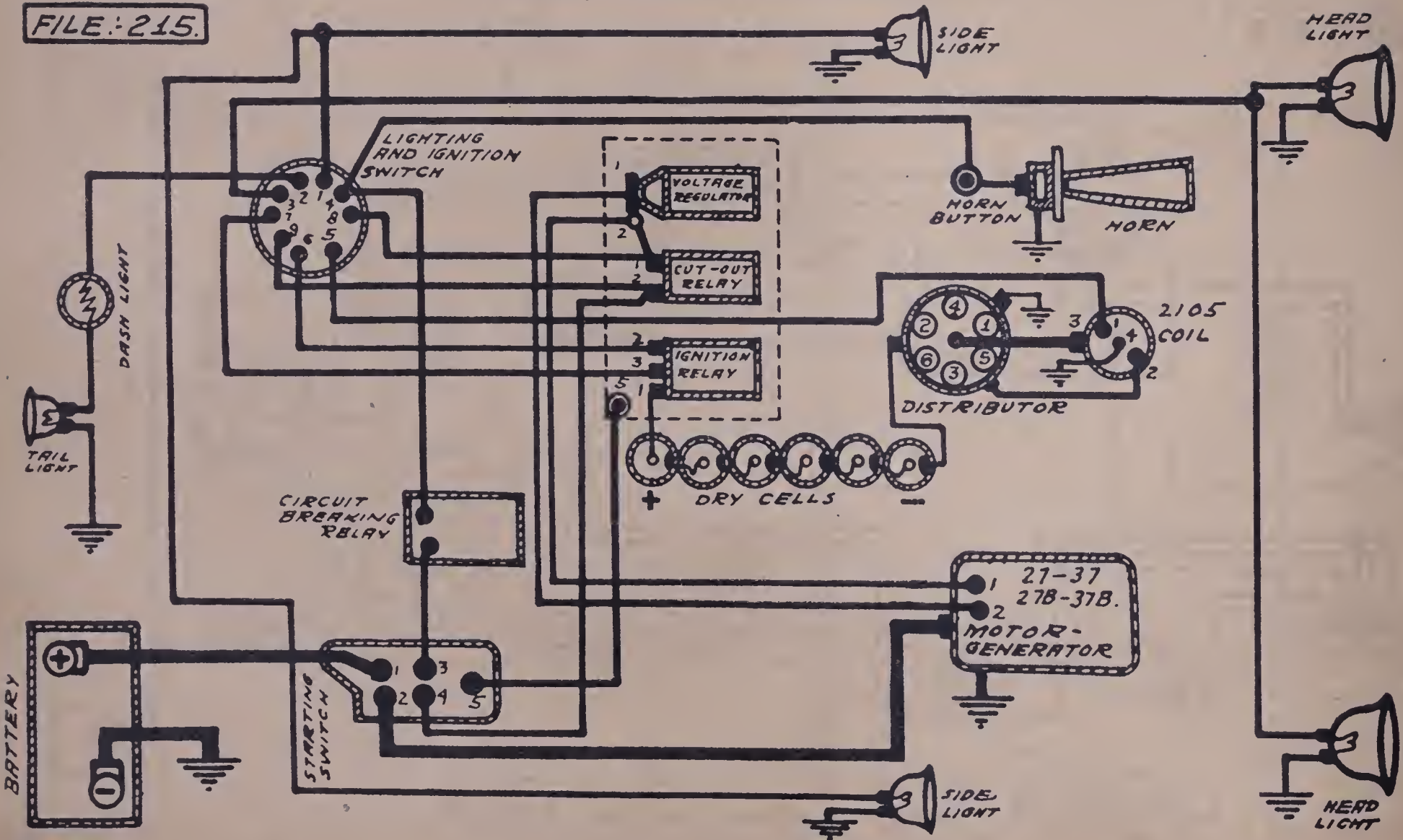
1914

COLE

SERIES 9

6-VOLT, - DELCO SYSTEM.

FILE: 215.



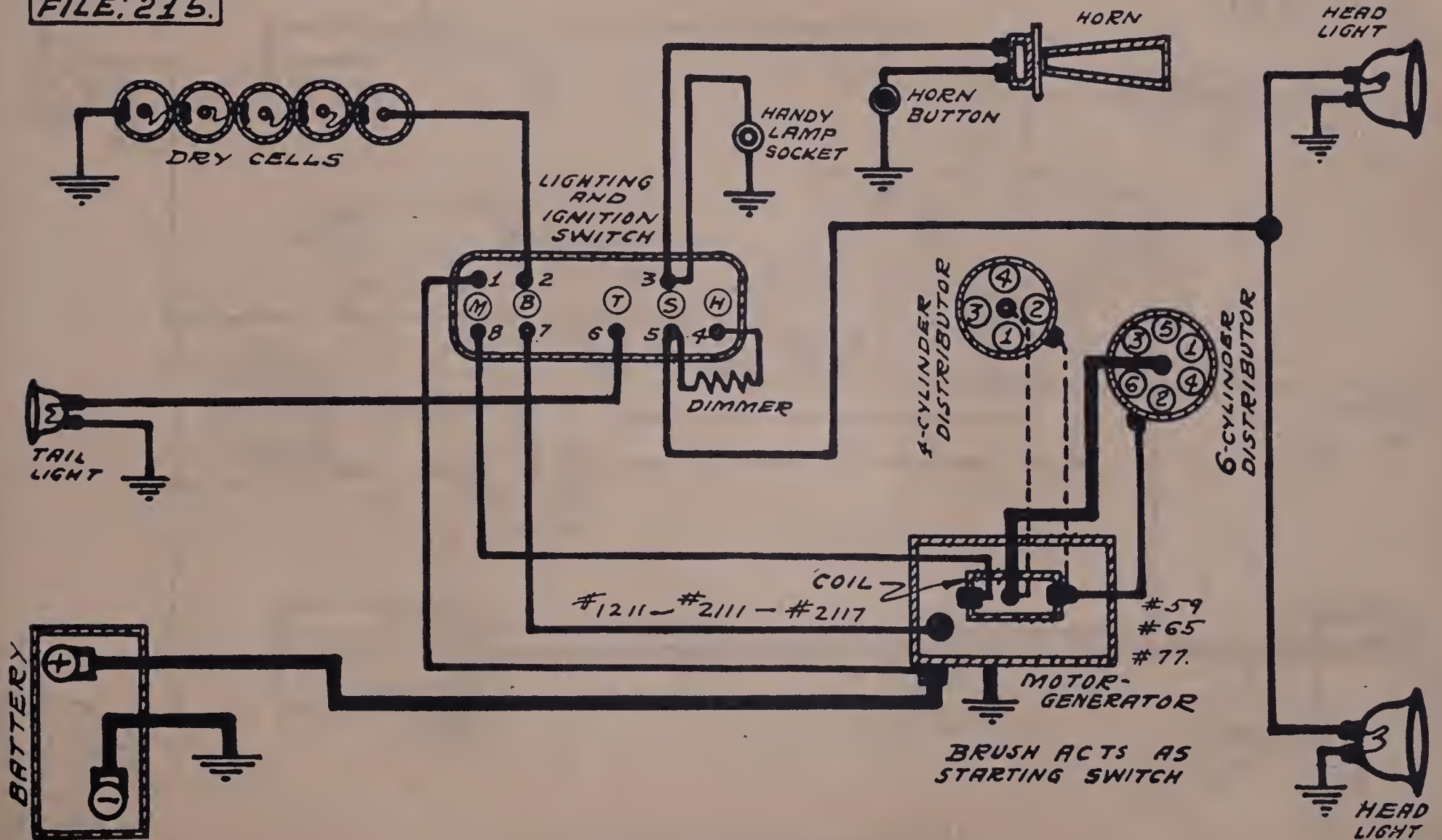
COLE

1915-MODEL 4-40, 6-50.

1916-MODEL - 666.

6-VOLT, DELCO SYSTEM

FILE: 215.



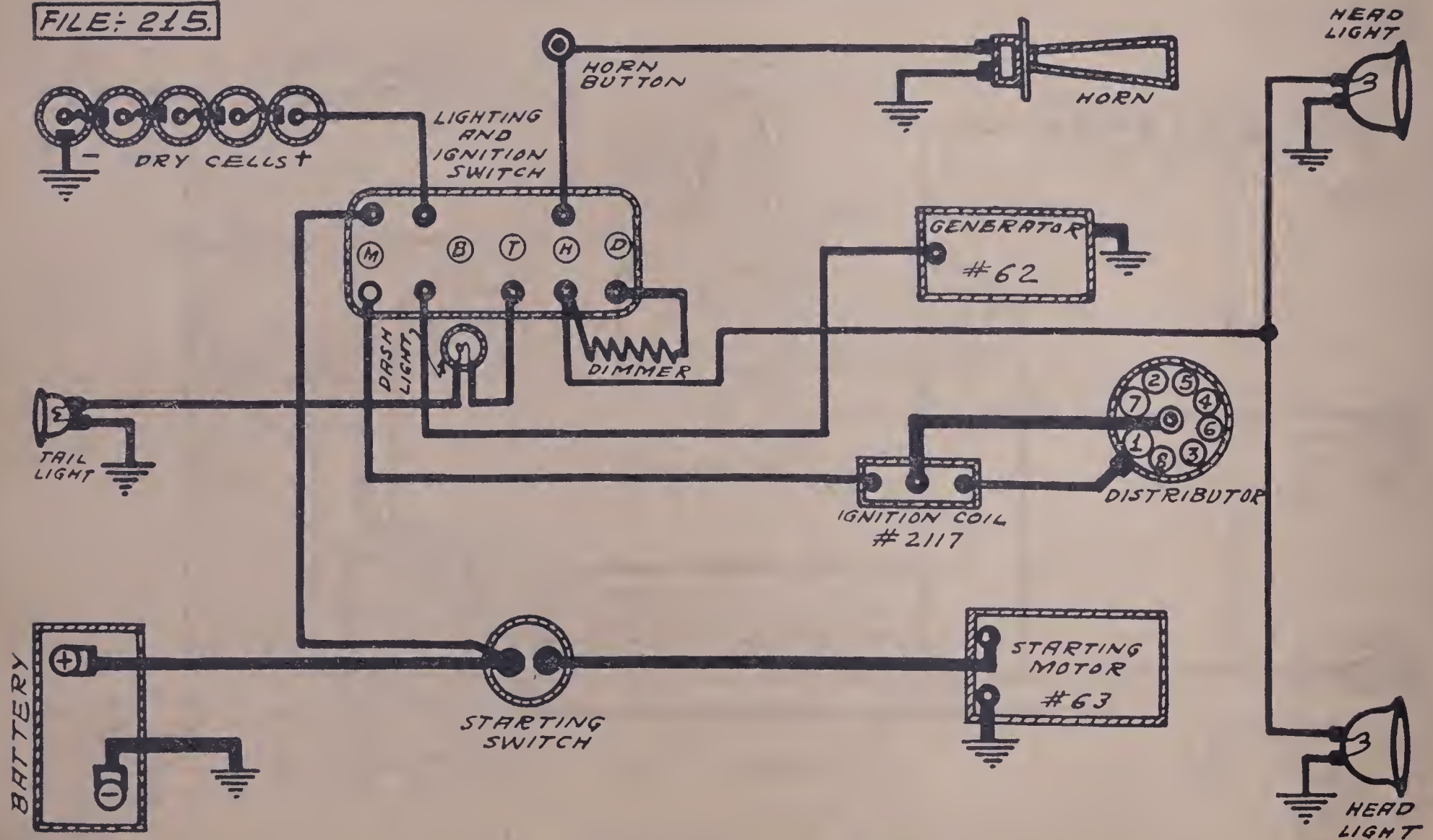
1916

COLE

MODEL 850.

6-VOLT, -DELCO SYSTEM.

FILE: 215.



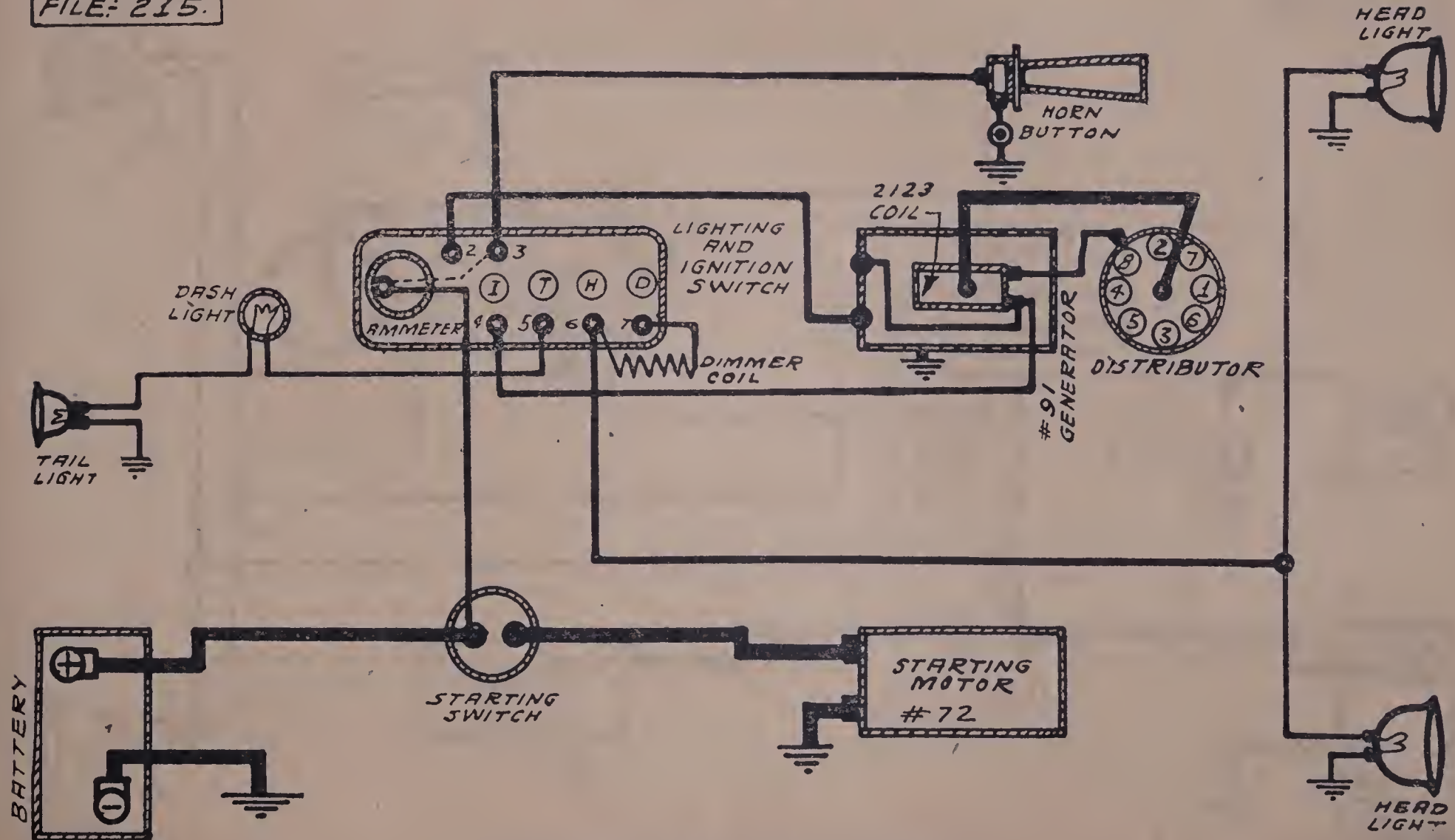
1917

COLE

MODEL 860

6-VOLT,-DELCO SYSTEM.

FILE: 215.



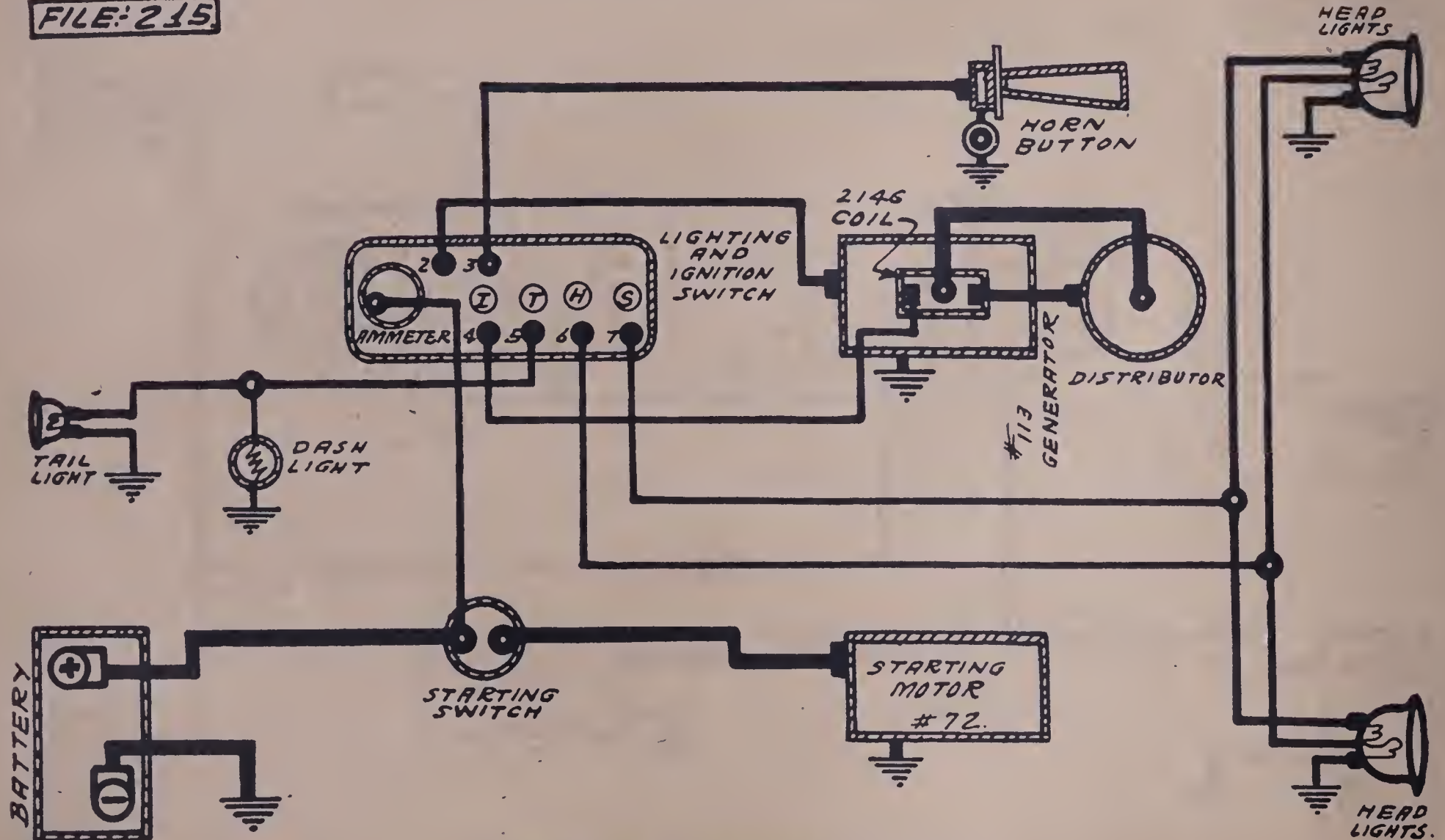
1917

COLE

MODE 880.

6-VOLT, DELCO SYSTEM.

FILE: 215



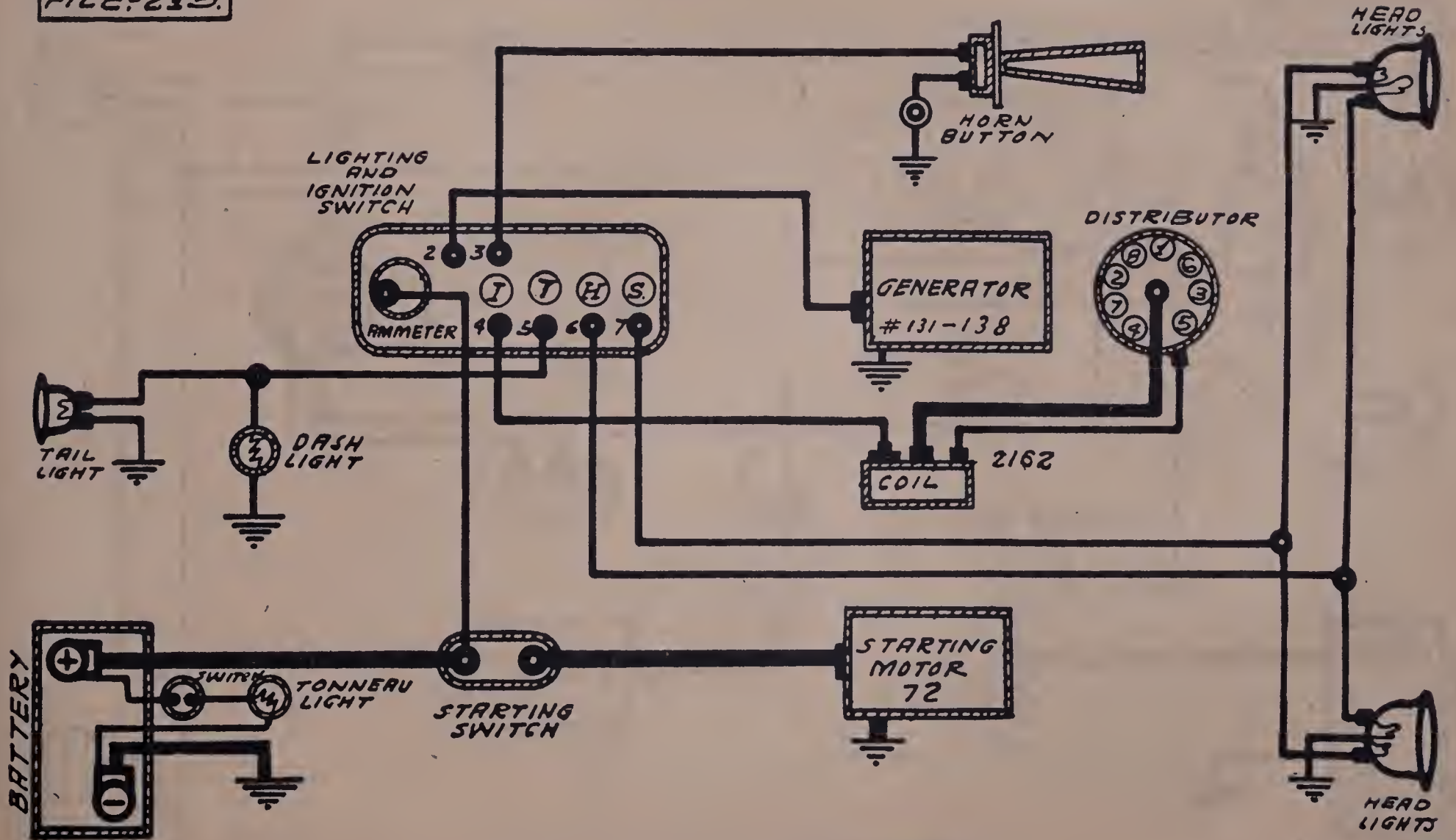
COLE

1918

MODEL 860, 870

6-VOLT, DELCO SYSTEM.

FILE: 215.

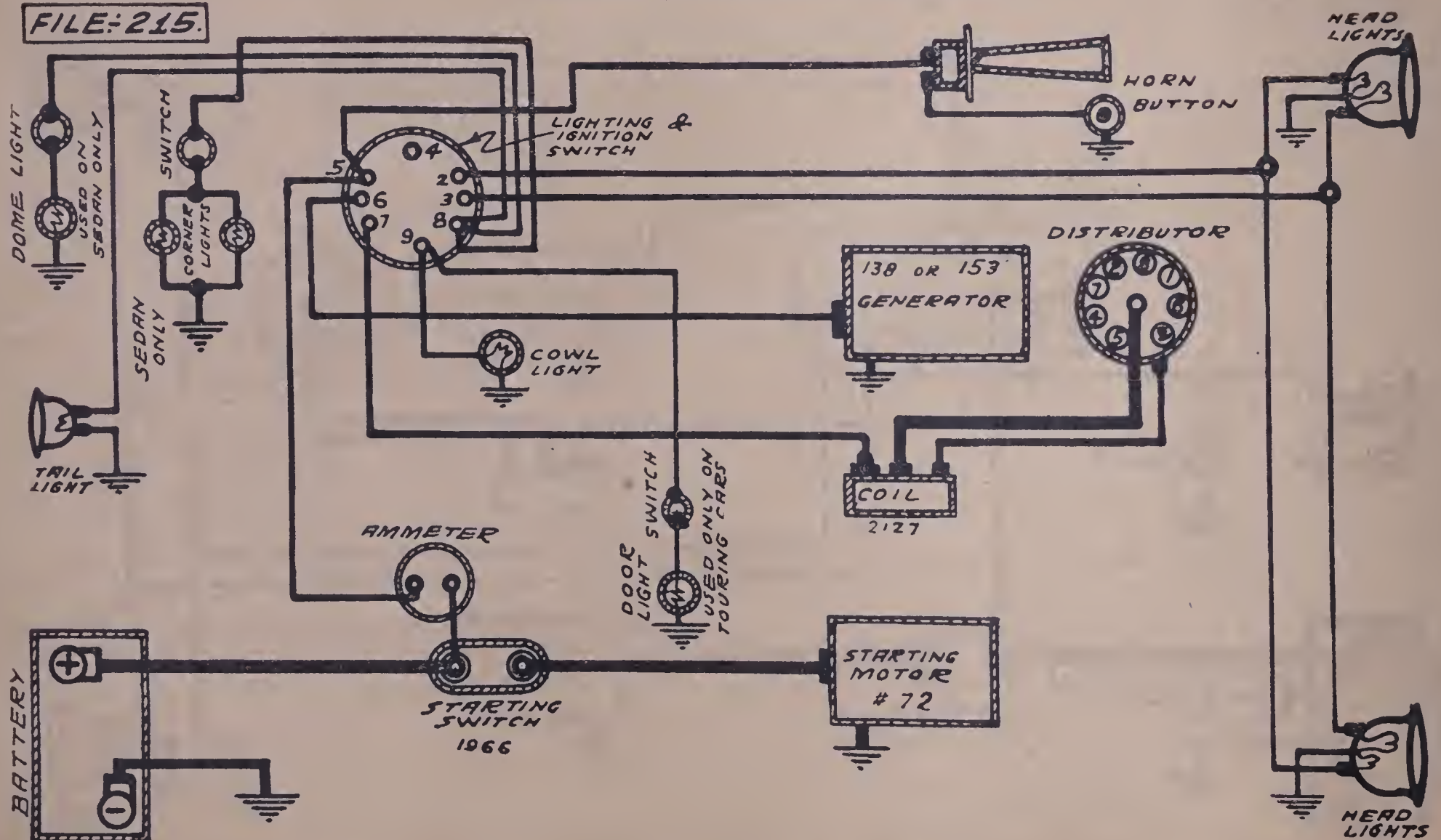


COLE

1919-1920.

MODEL 870.

6-VOLT, DELCO SYSTEM.

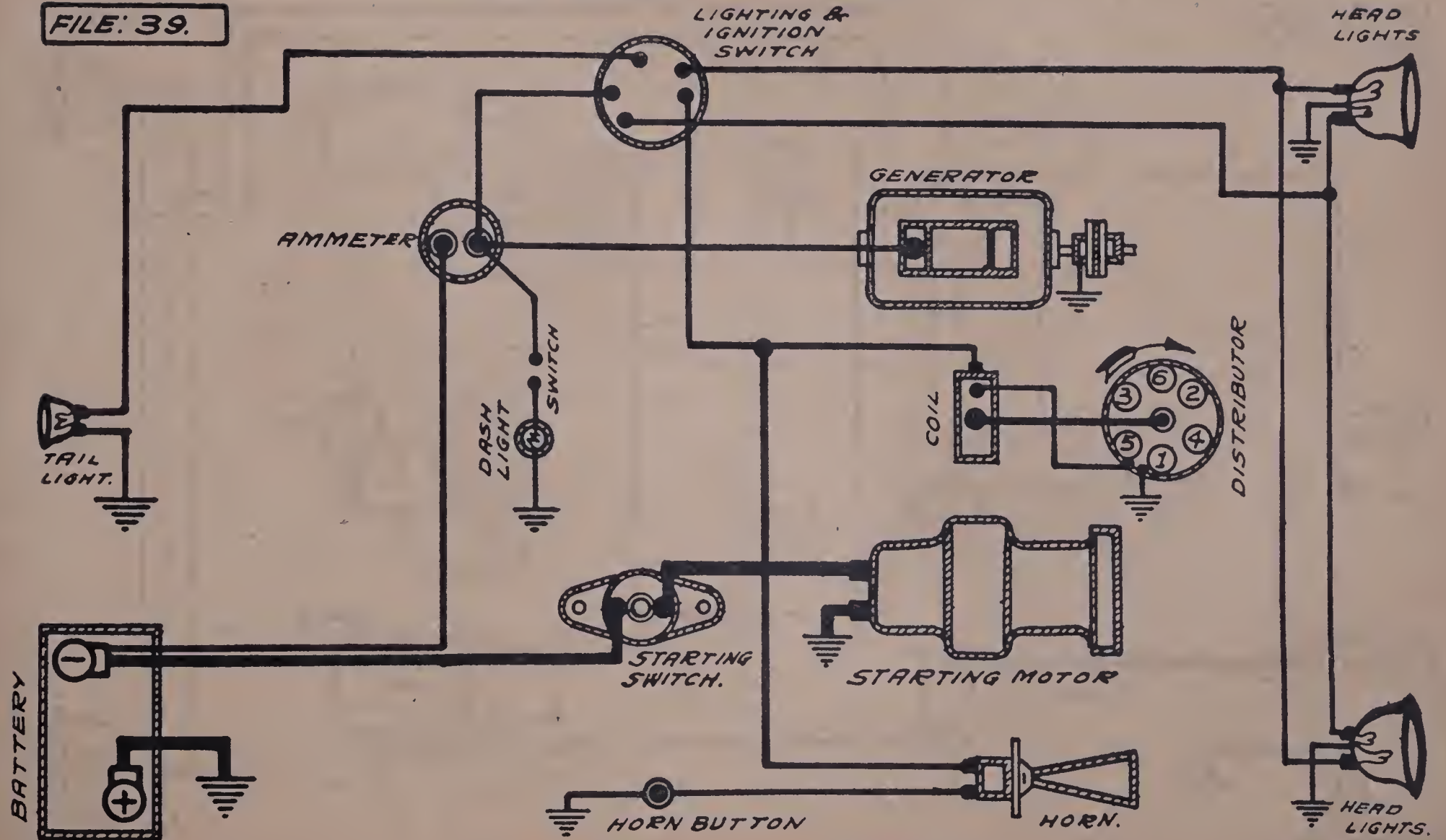


COLUMBIA

1919 MODELS

6-VOLT, AUTOLITE SYSTEM.

FILE: 39.



COLUMBIA.

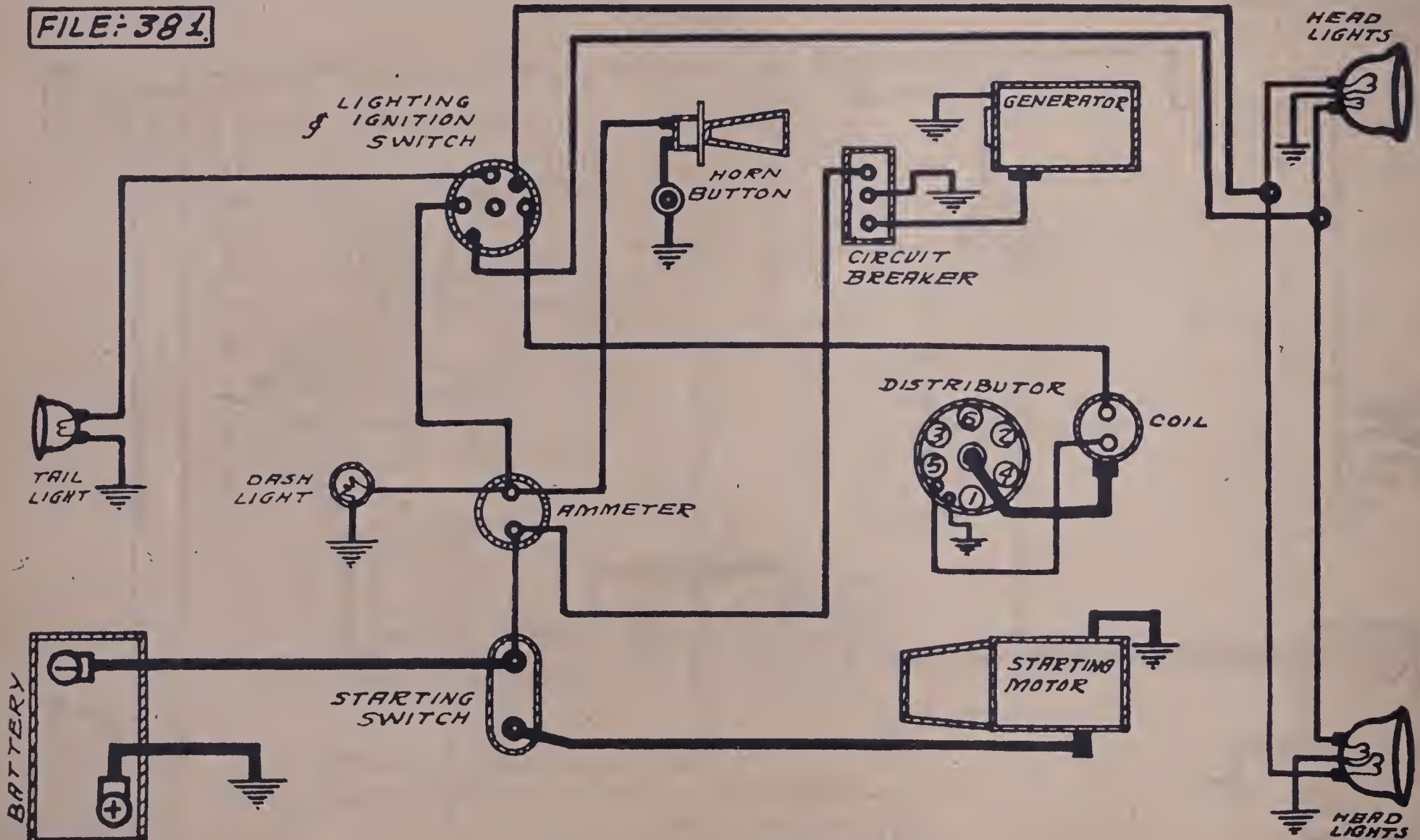
7-W-SERIES.

MODEL-6

1920.

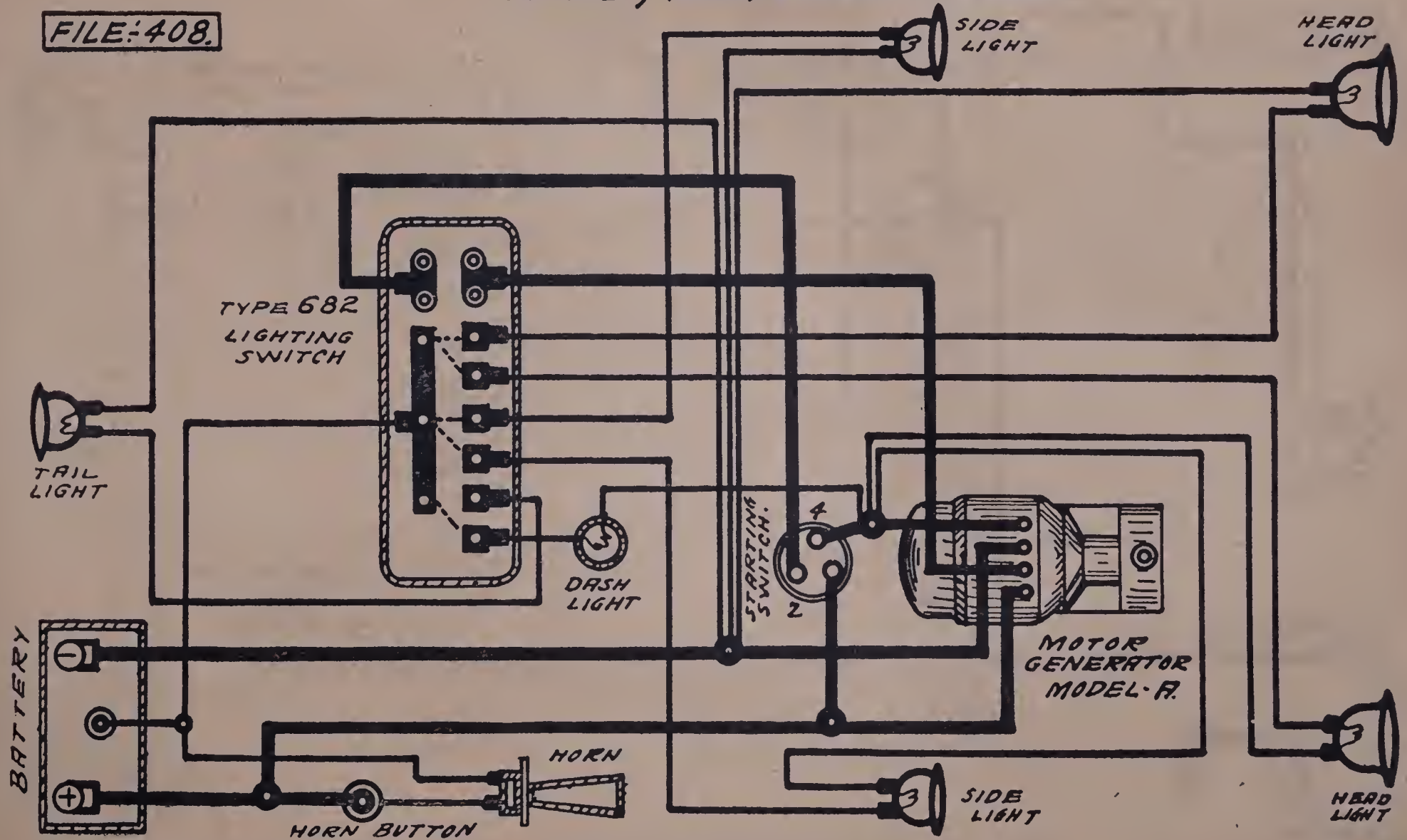
6-V. - AUTOLITE SYSTEM. = ATWATER-KENT IGNITION.

FILE: 381.



COLUMBUS
1913 MODELS.
16-VOLT, NORTH EAST. SYSTEM.

FILE: 408.

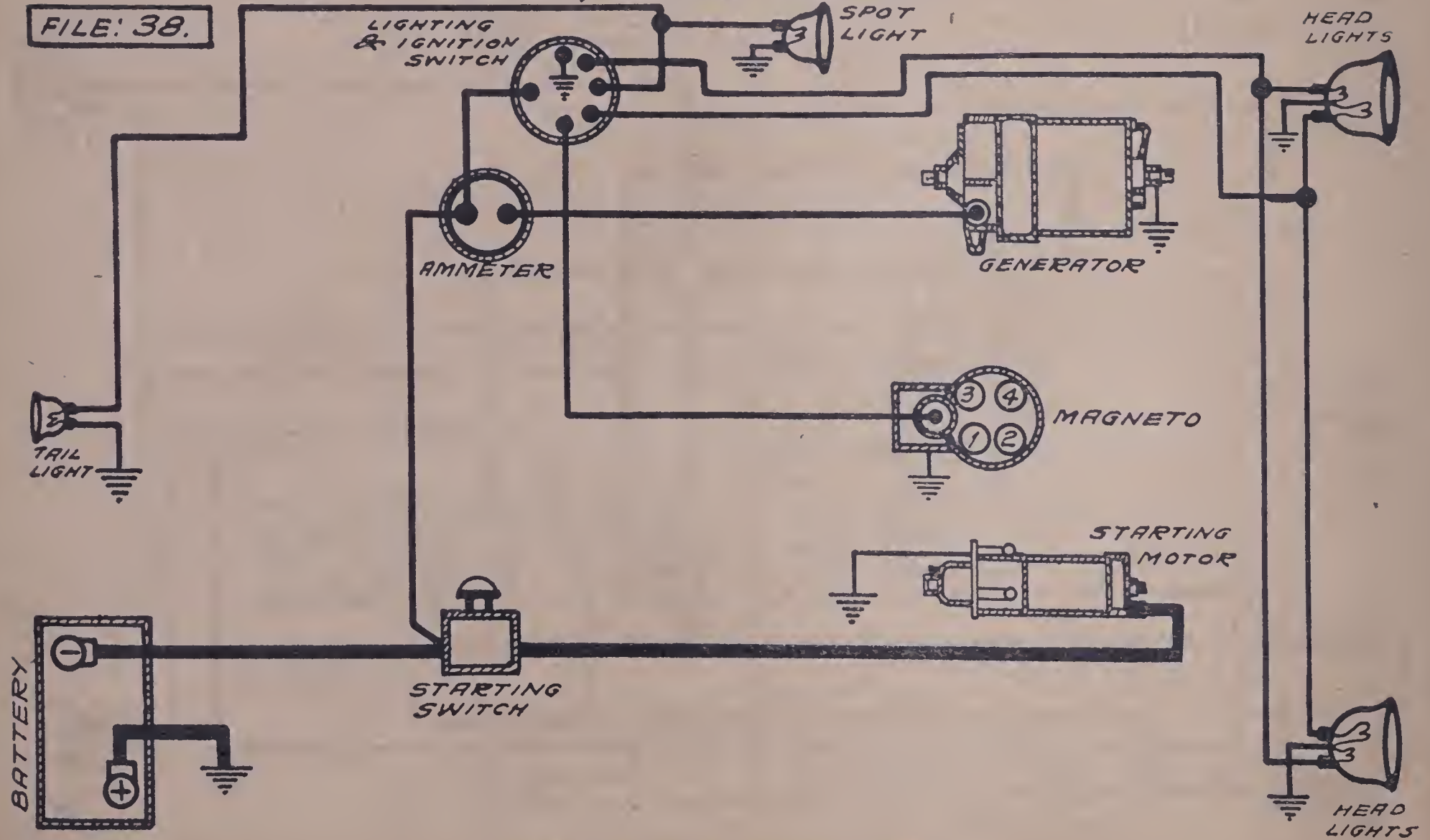


COMMERCE-TRUCK

1917-1918

MODEL E.

6-VOLT, BIJUR SYSTEM.

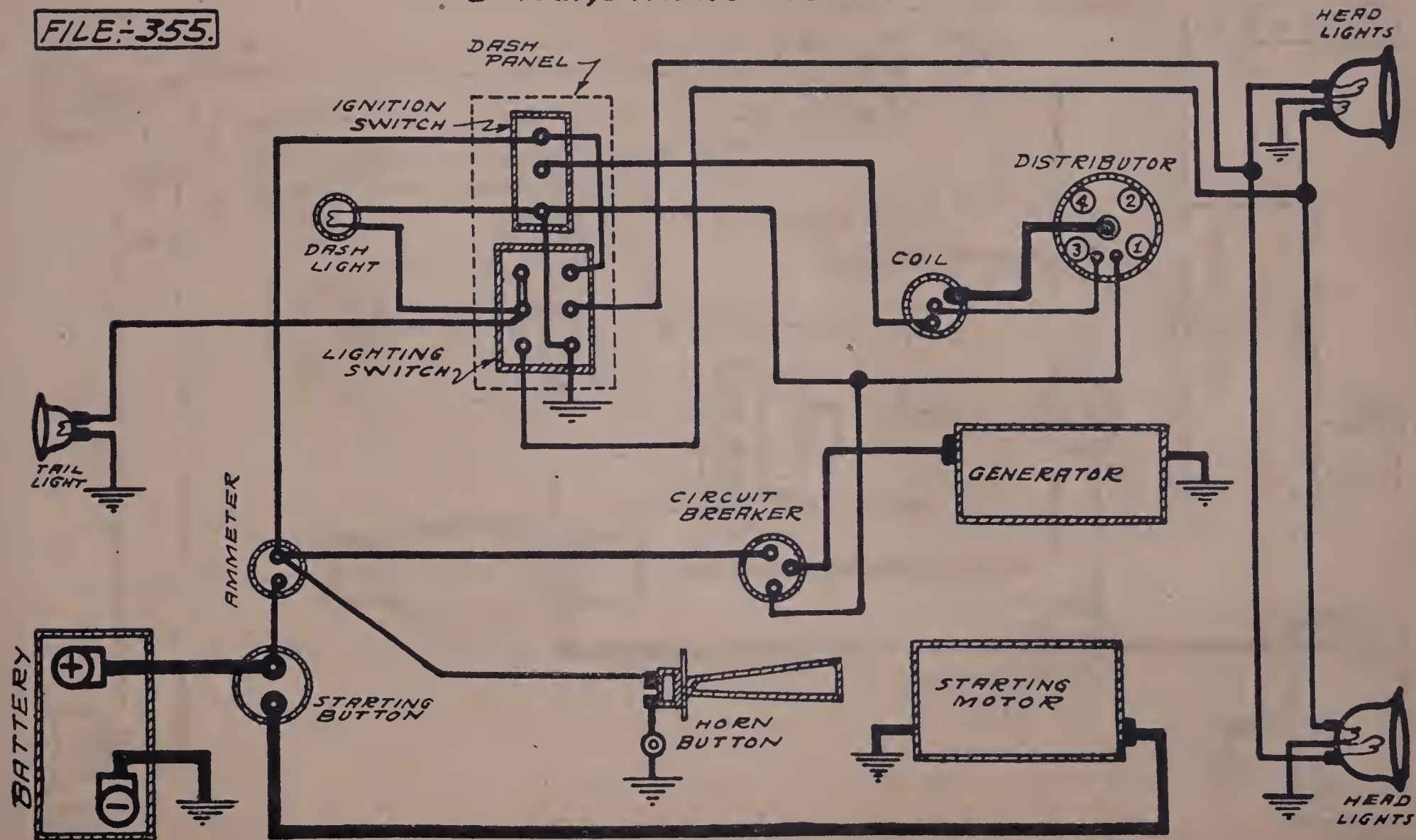


1919-1920

COMMONWEALTH

SERIES-42,000 MODEL 4-40
6-VOLT, DYNETO SYSTEM.

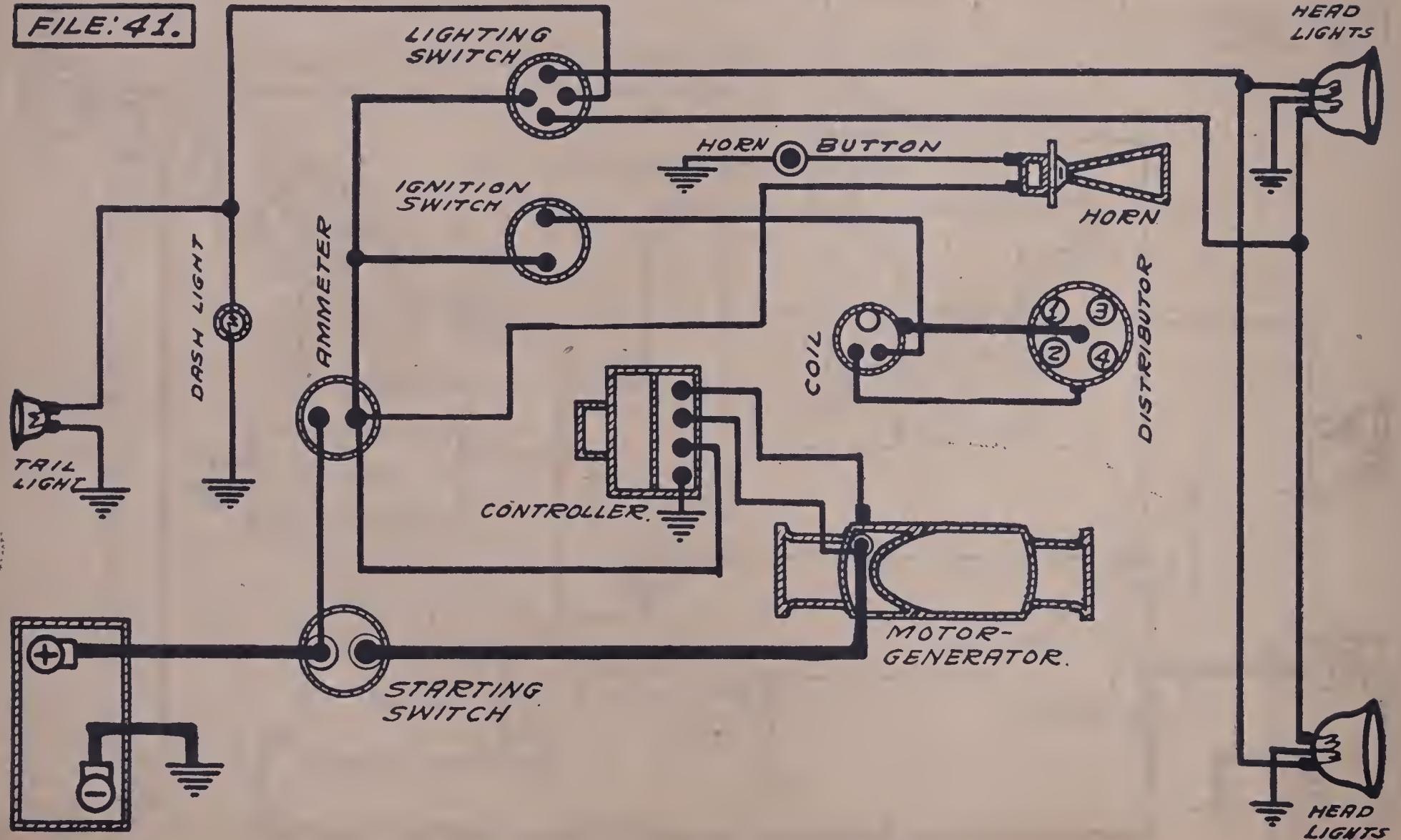
FILE-355.



CROW-ELKHART

1915-MODEL CROW-ELKHART, JR., 1916-MODELS 23, 30.
12-VOLT, DISCO SYSTEM.

FILE: 41.



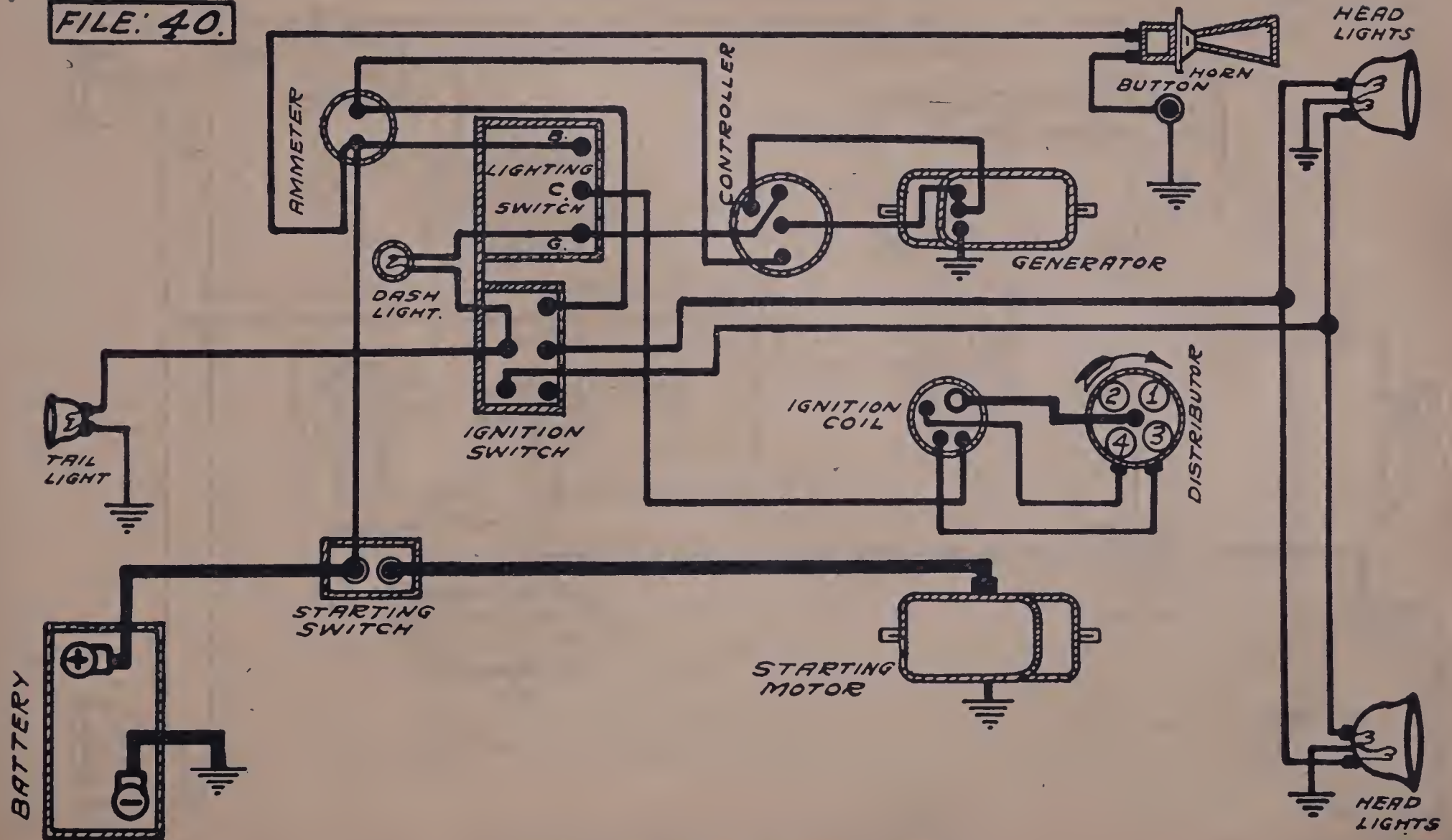
CROW-ELKHART

1916-1917

MODEL, C.E. 30 & 33.

6-VOLT, DYNETO SYSTEM.

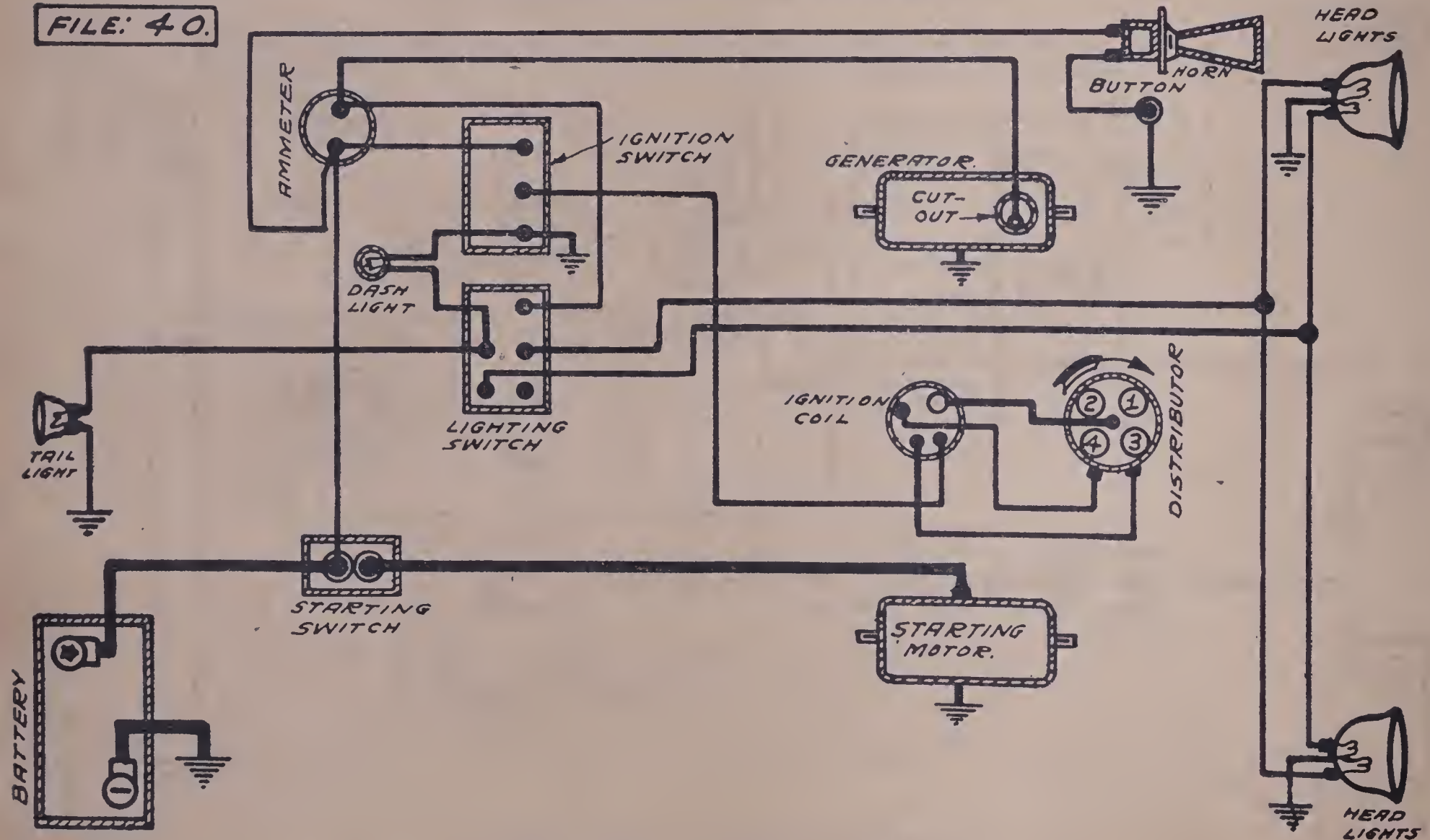
FILE: 40.



CROW-ELKHART

1916-1917, MODEL C.E. 33-35. 1918-1920, K-H, 32, 34, 36, 44-42-46.
6-VOLT, DYNETO SYSTEM.

FILE: 40.



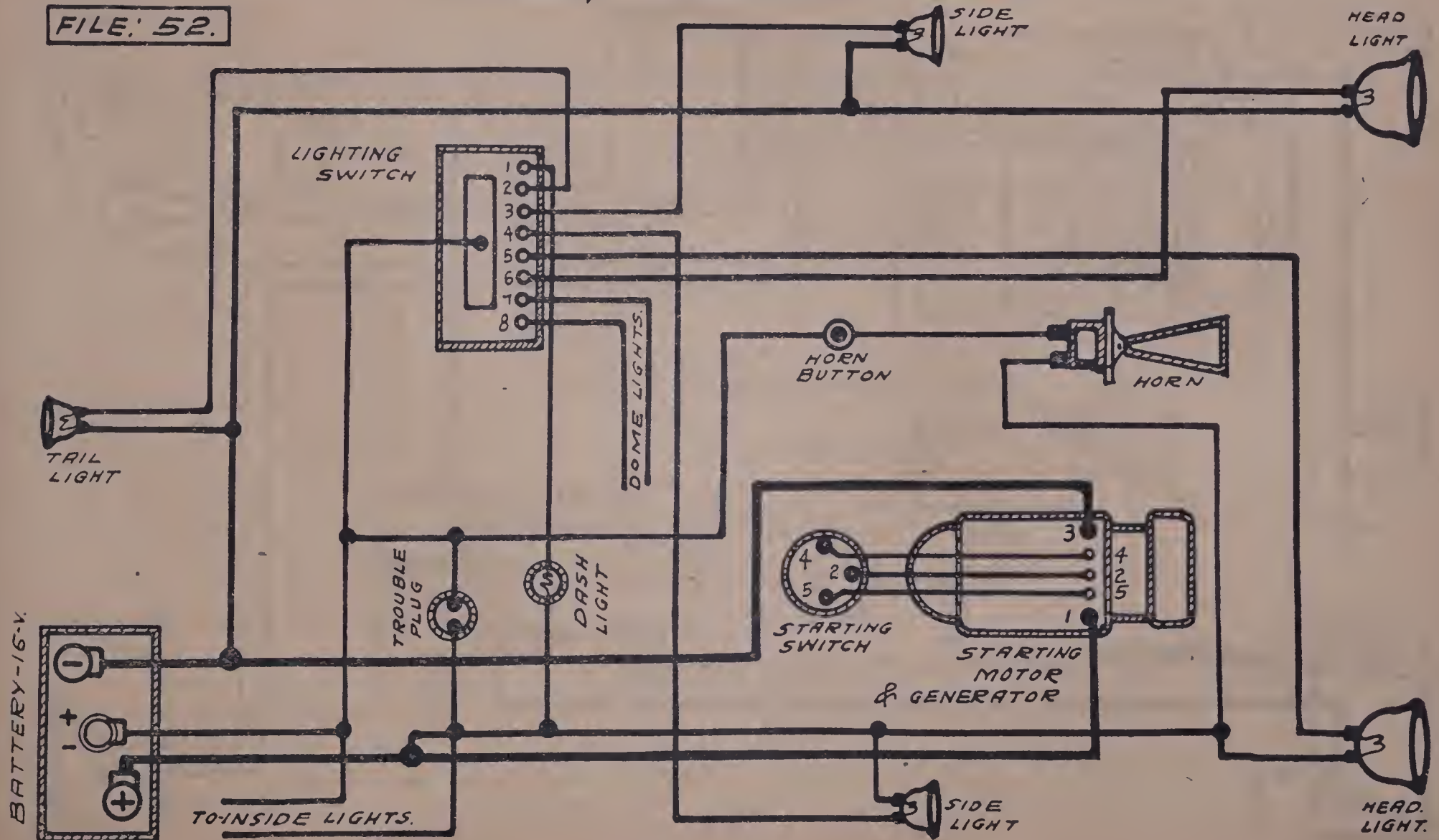
1913-

AMBULANCE, HEARSE, ETC.

MODEL-M.

16-VOLT, - NORTHEAST SYSTEM.

FILE: 52.



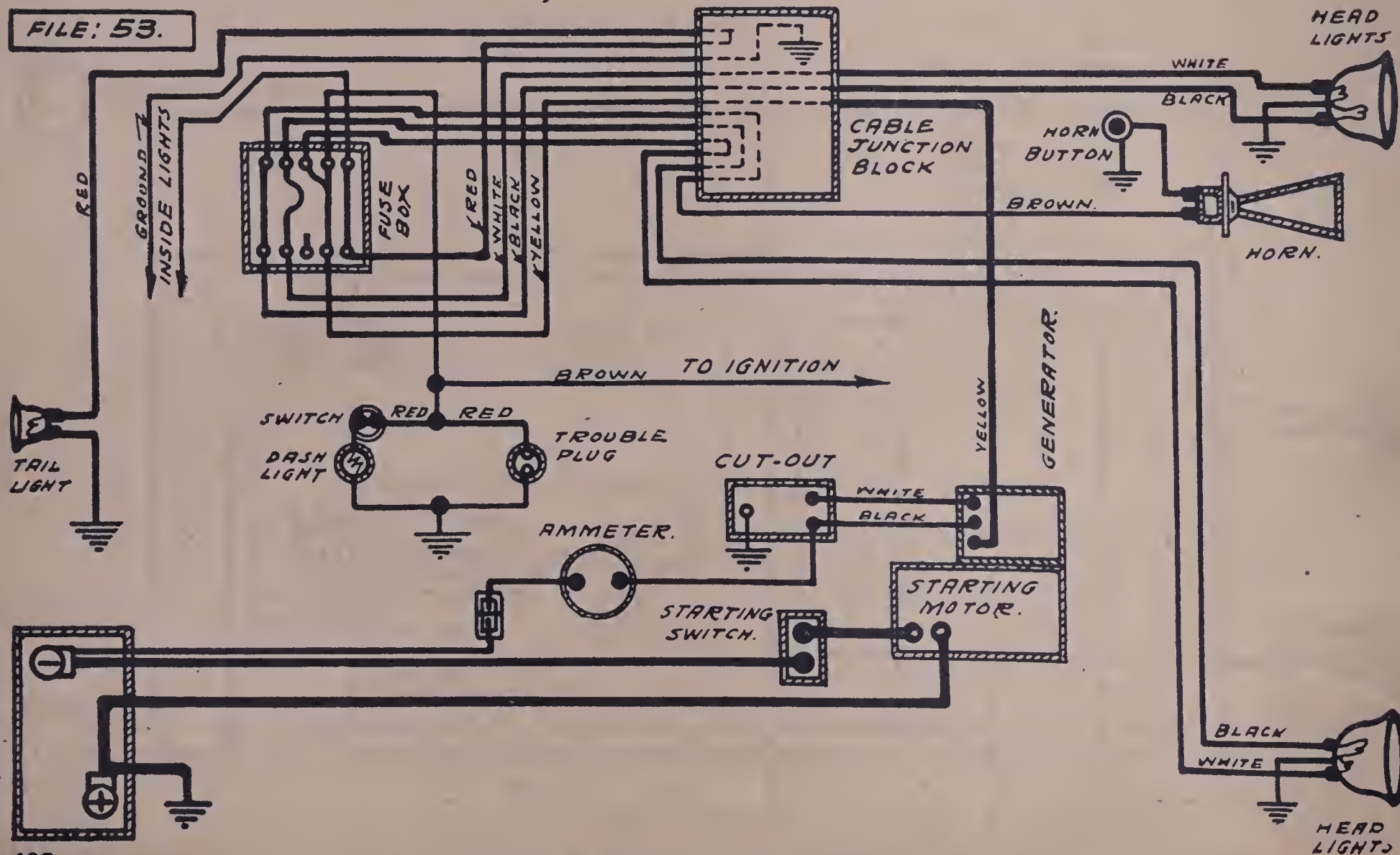
CUNNINGHAM

1914

MODEL R.

6-VOLT, WESTINGHOUSE SYSTEM.

FILE: 53.



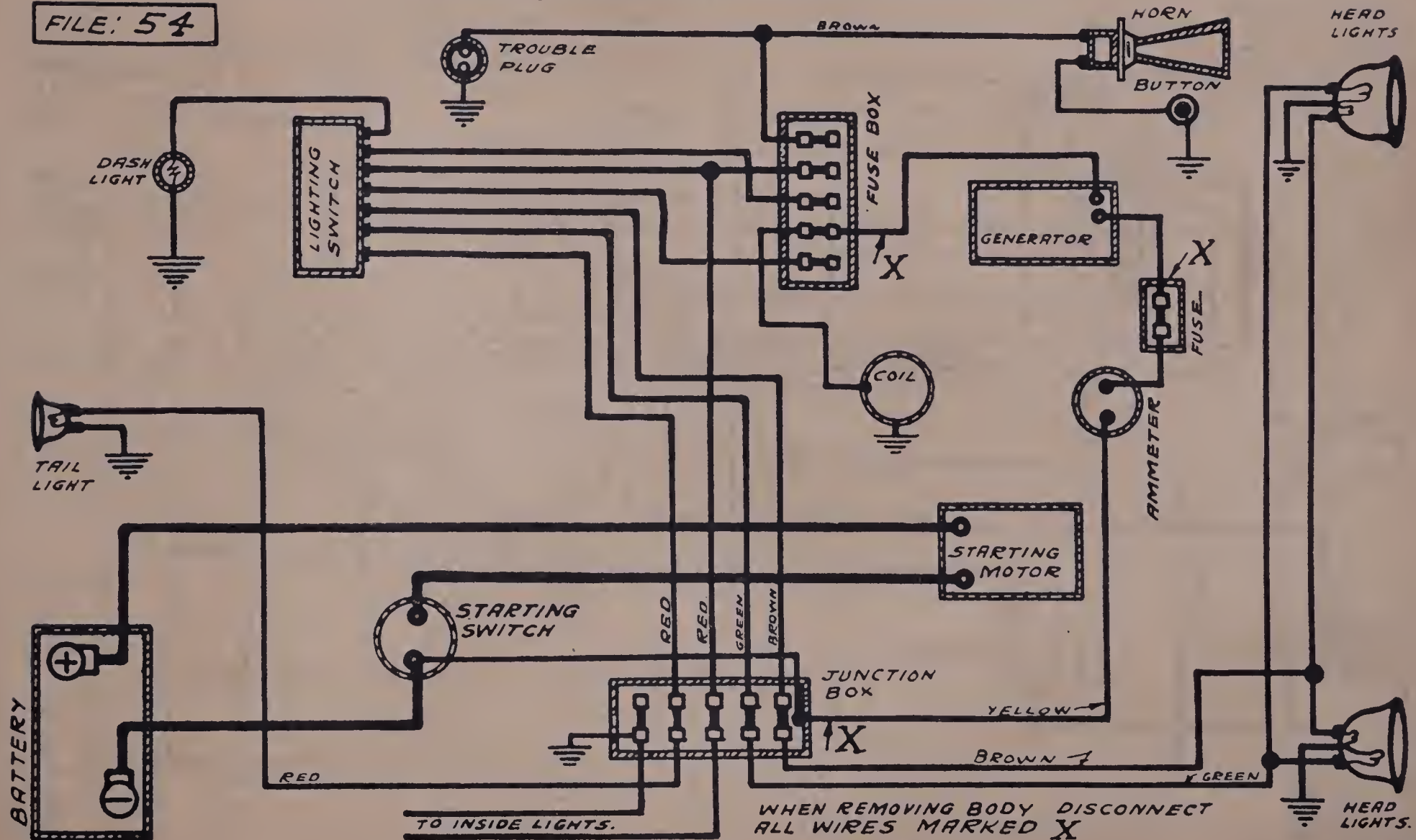
CUNNINGHAM

1915

MODEL S

6-VOLT, WESTINGHOUSE SYSTEM.

FILE: 54



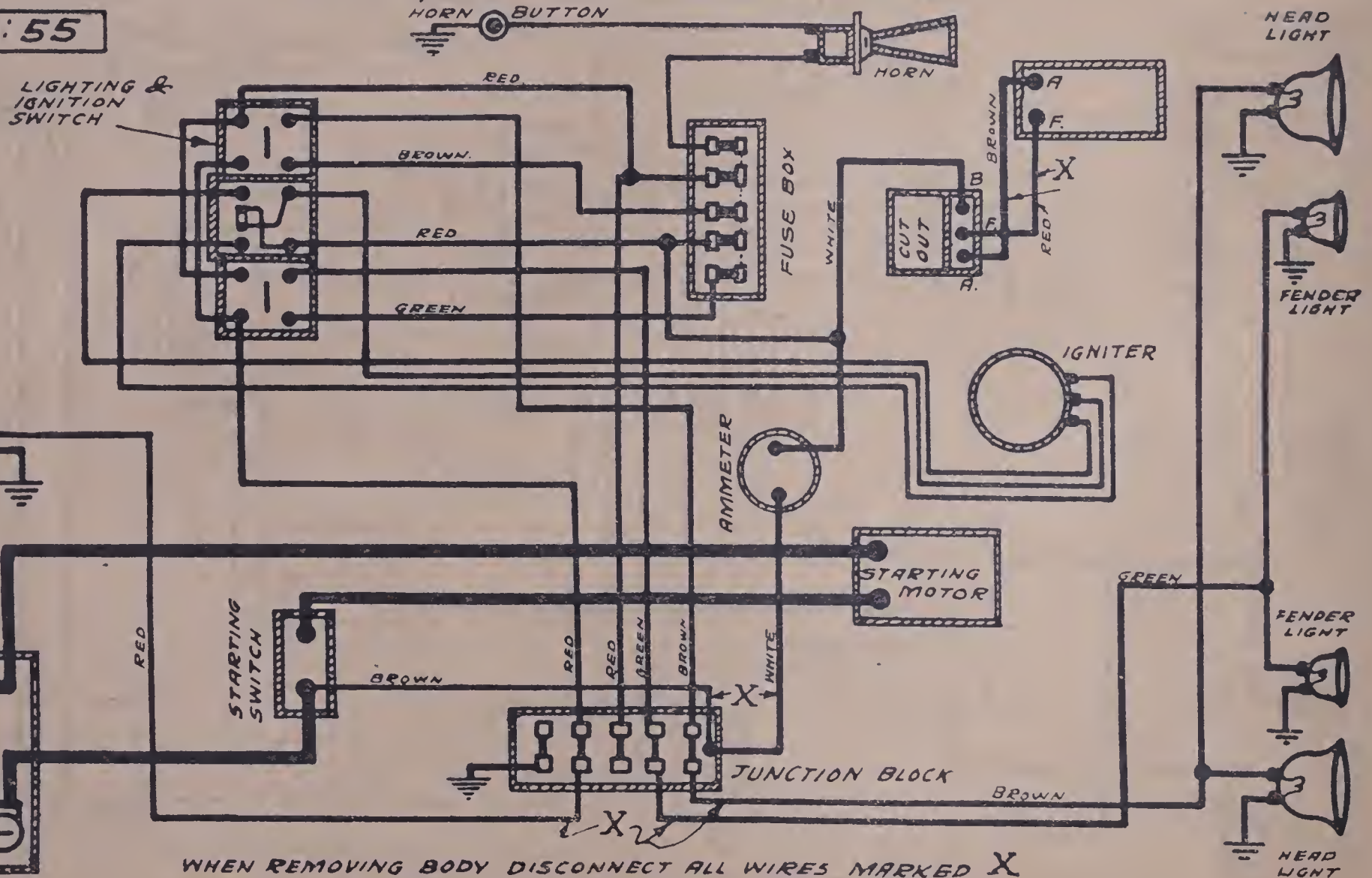
CUNNINGHAM

1916 - MODEL V-1

1917-MODEL V-2.

6-VOLT, WESTINGHOUSE SYSTEM.

FILE: 55



WHEN REMOVING BODY DISCONNECT ALL WIRES MARKED X

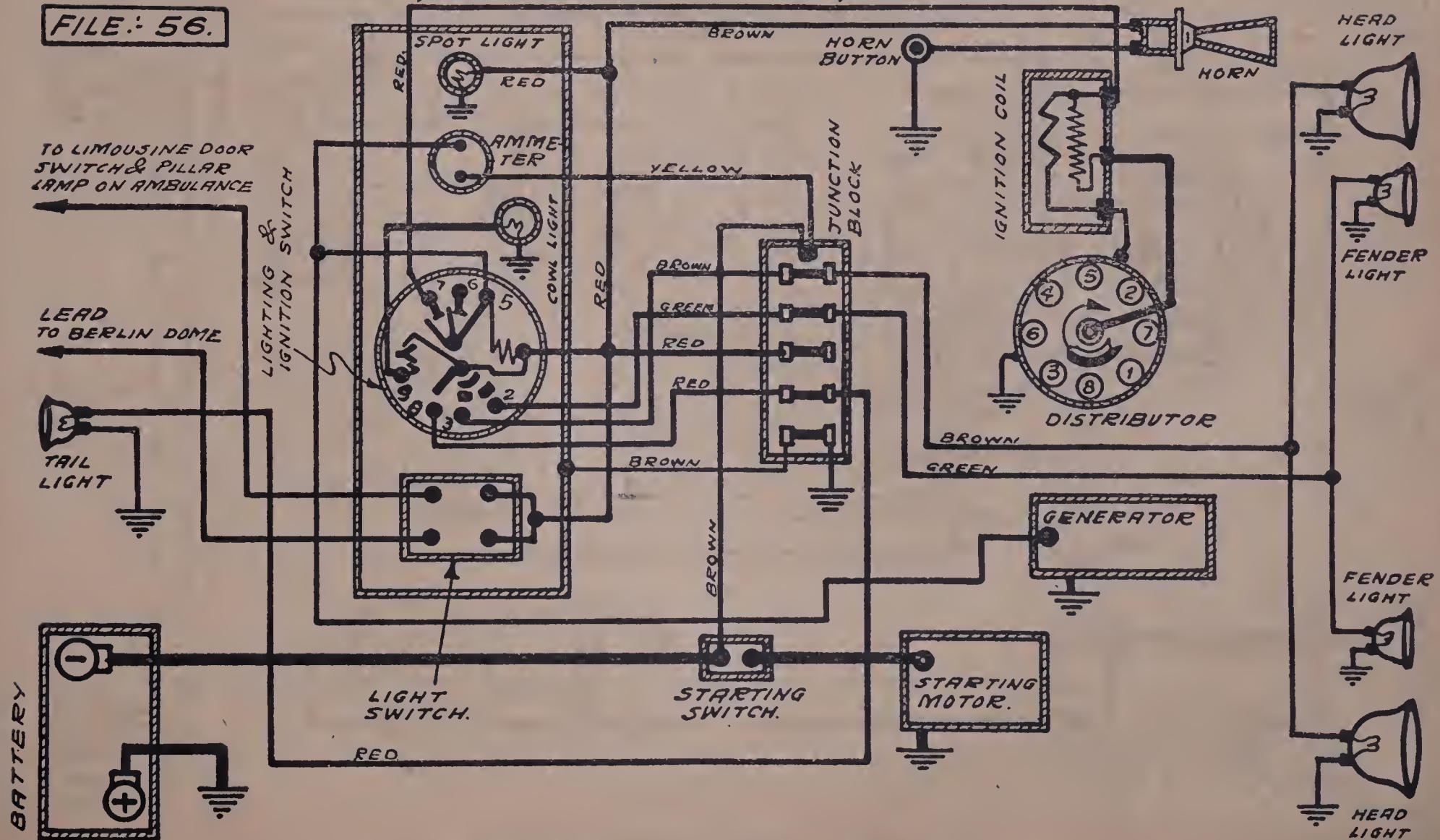
CUNNINGHAM

1918-1919.

MODEL, V-3.

6-VOLT, WESTINGHOUSE SYSTEM, - DELCO IGNITION.

FILE: 56.



DANIELS

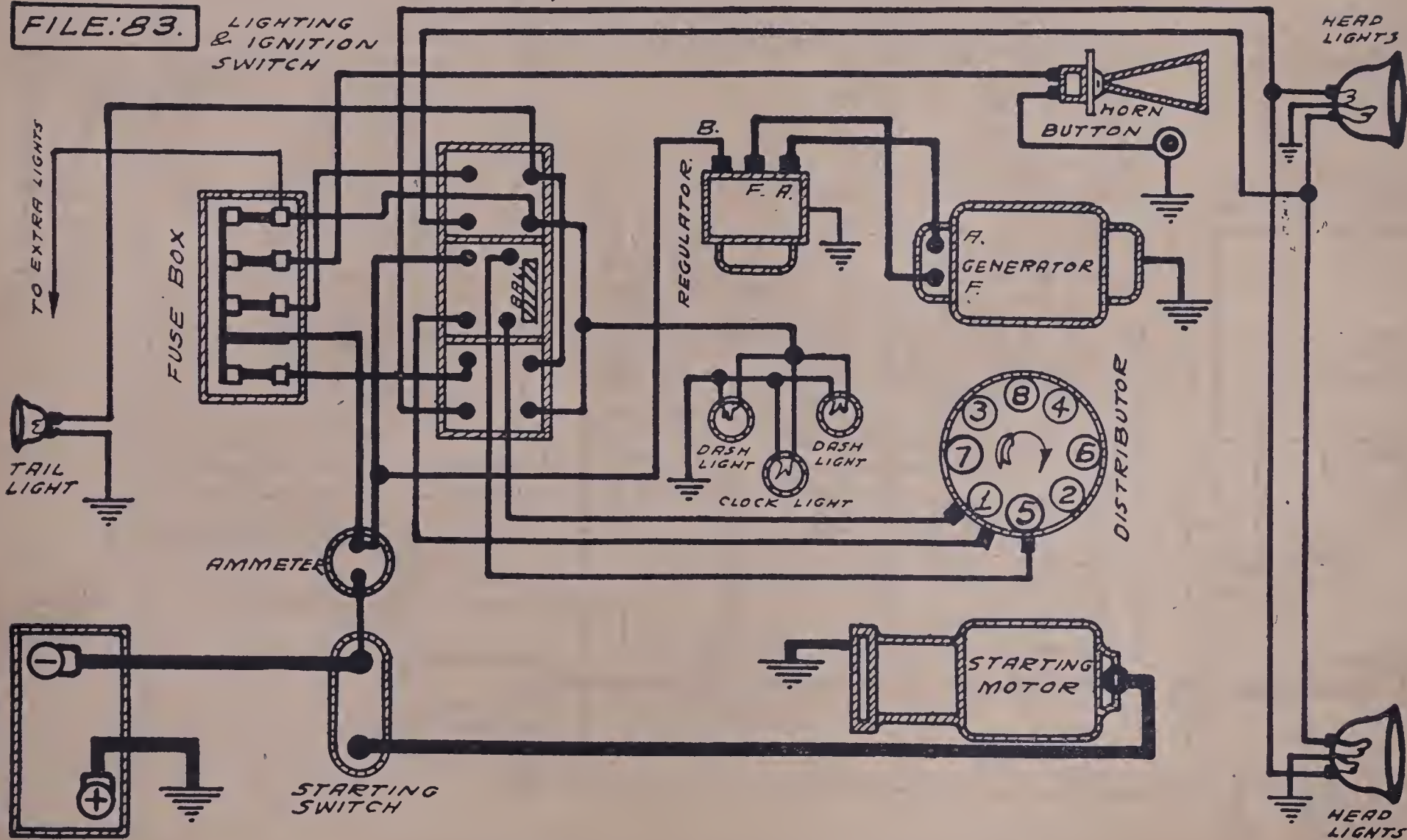
1916-1917-1918

MODEL A-8.

6-VOLT, - WESTINGHOUSE SYSTEM.

FILE: 83.

LIGHTING
& IGNITION
SWITCH

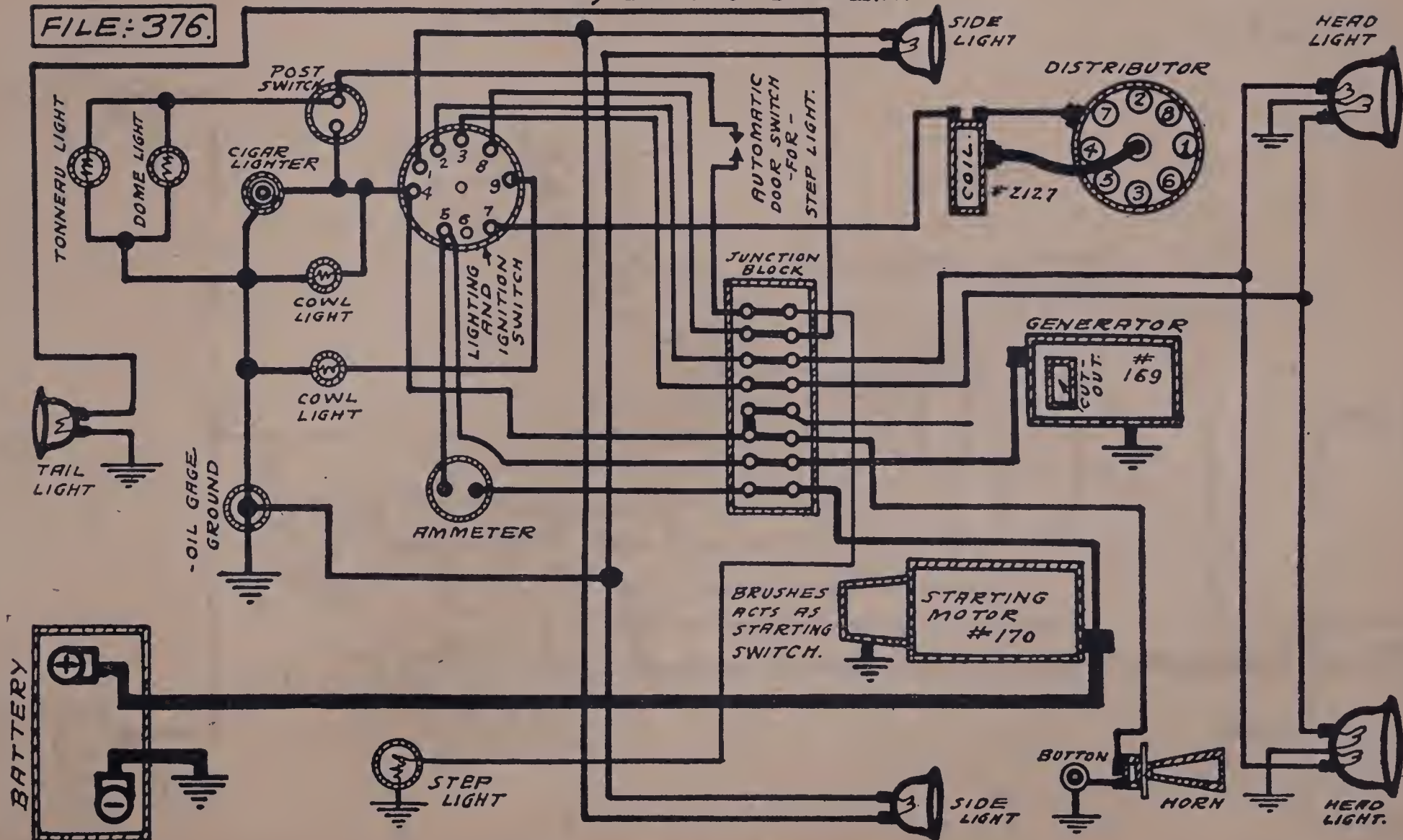


DANIELS.

1919-1920.

MODEL D-19.

6-VOLT, DELCO SYSTEM.



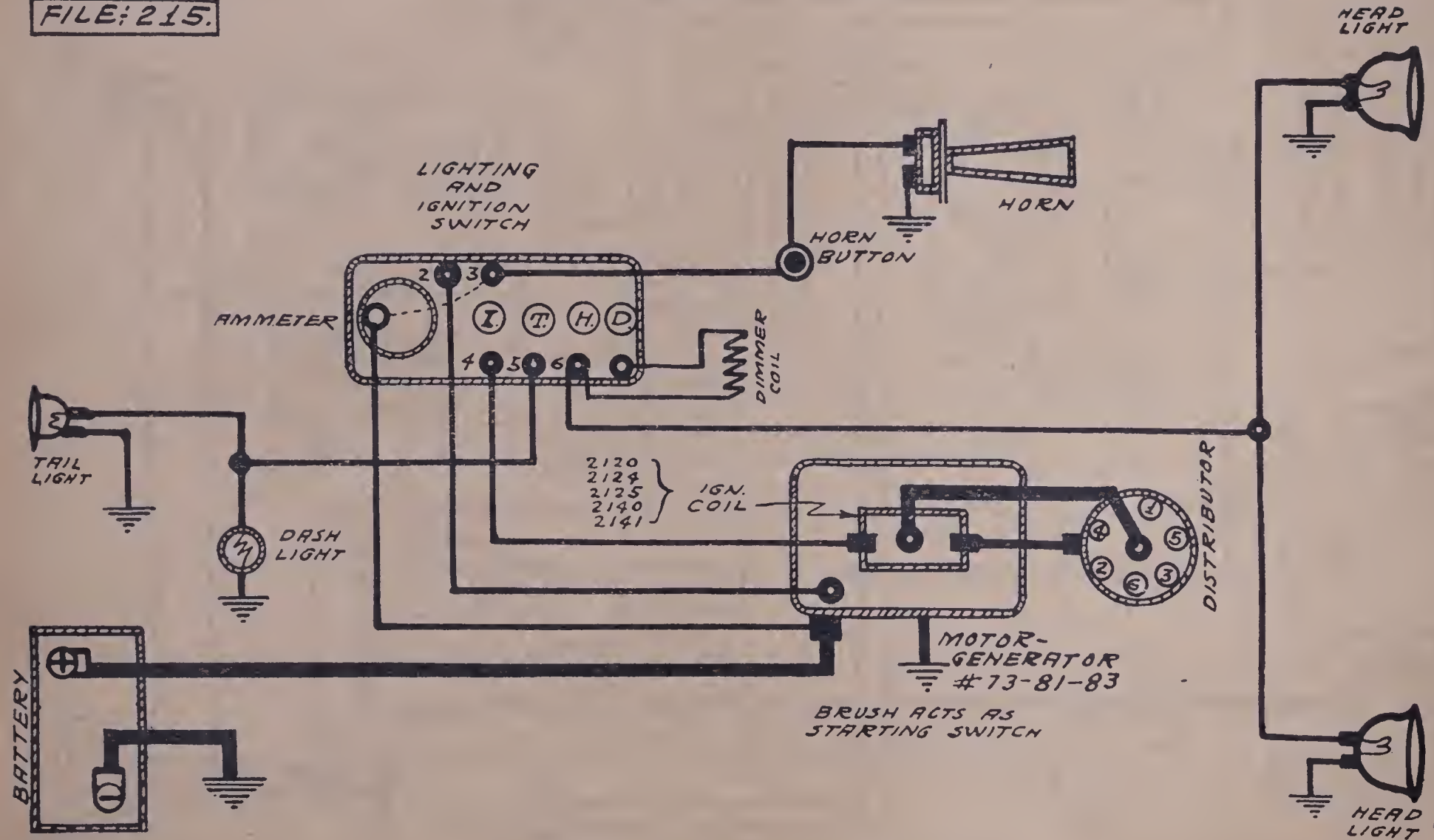
DAVIS

1916

MODELS C-38, 6-E, 6-G.

6-VOLT, -DELCO SYSTEM.

FILE: 215.

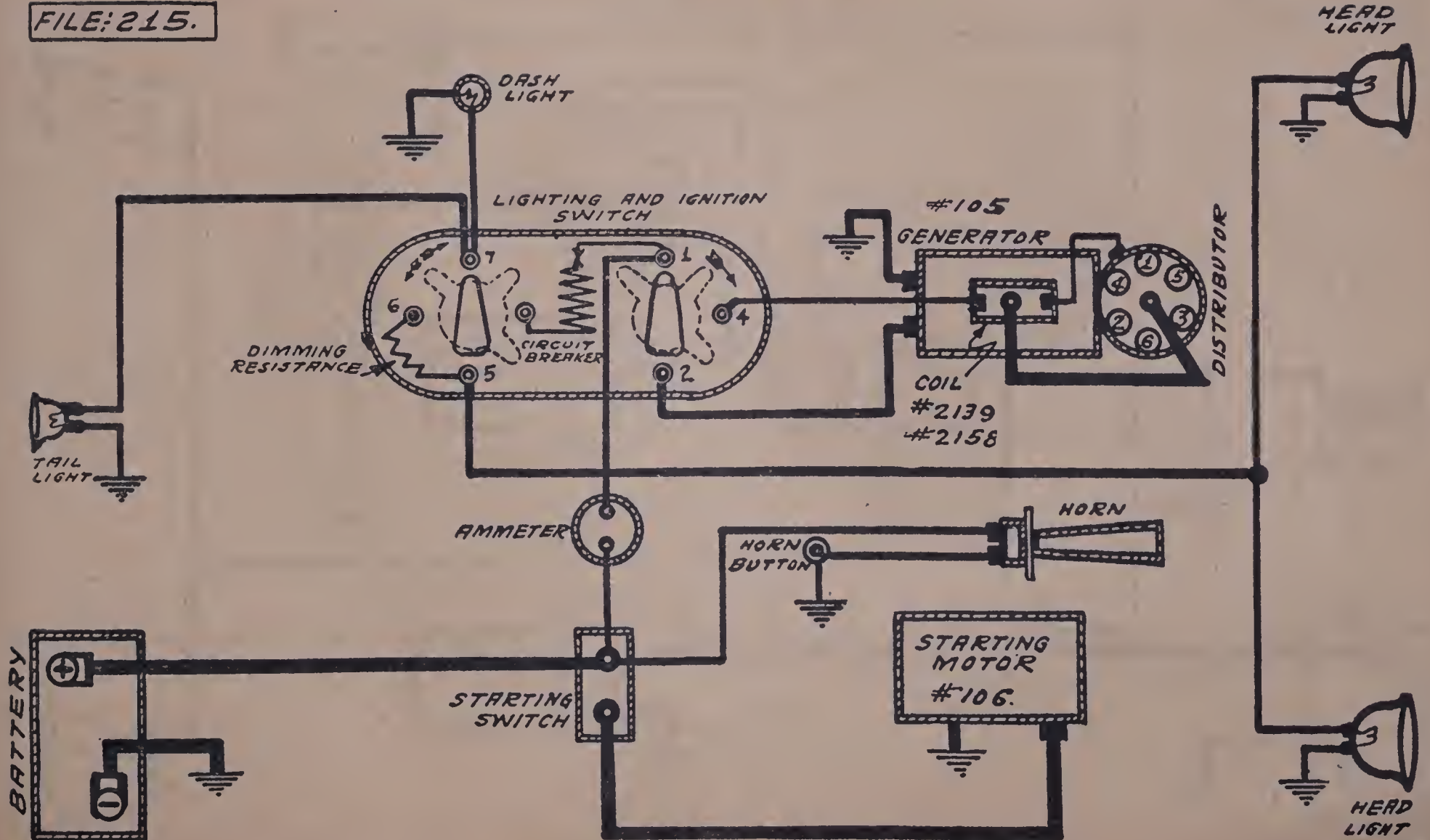


DAVIS

1917-1918

MODELS, 6-H, 6-I, 6-K
6-VOLT, DELCO SYSTEM.

FILE: 215.



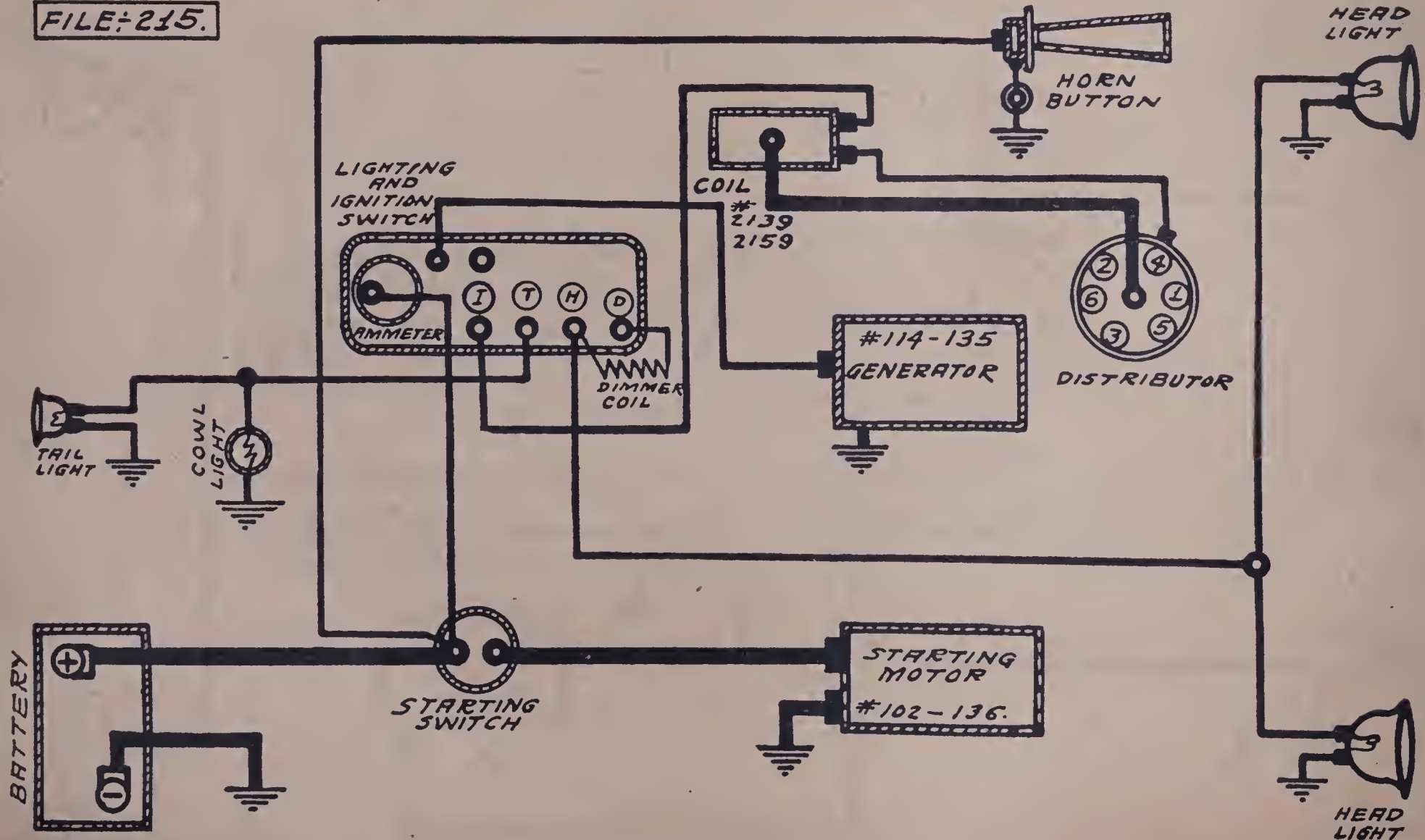
DAVIS

1917-1918.

MODEL 6-J

6-VOLT, DELCO SYSTEM.

FILE: 215.

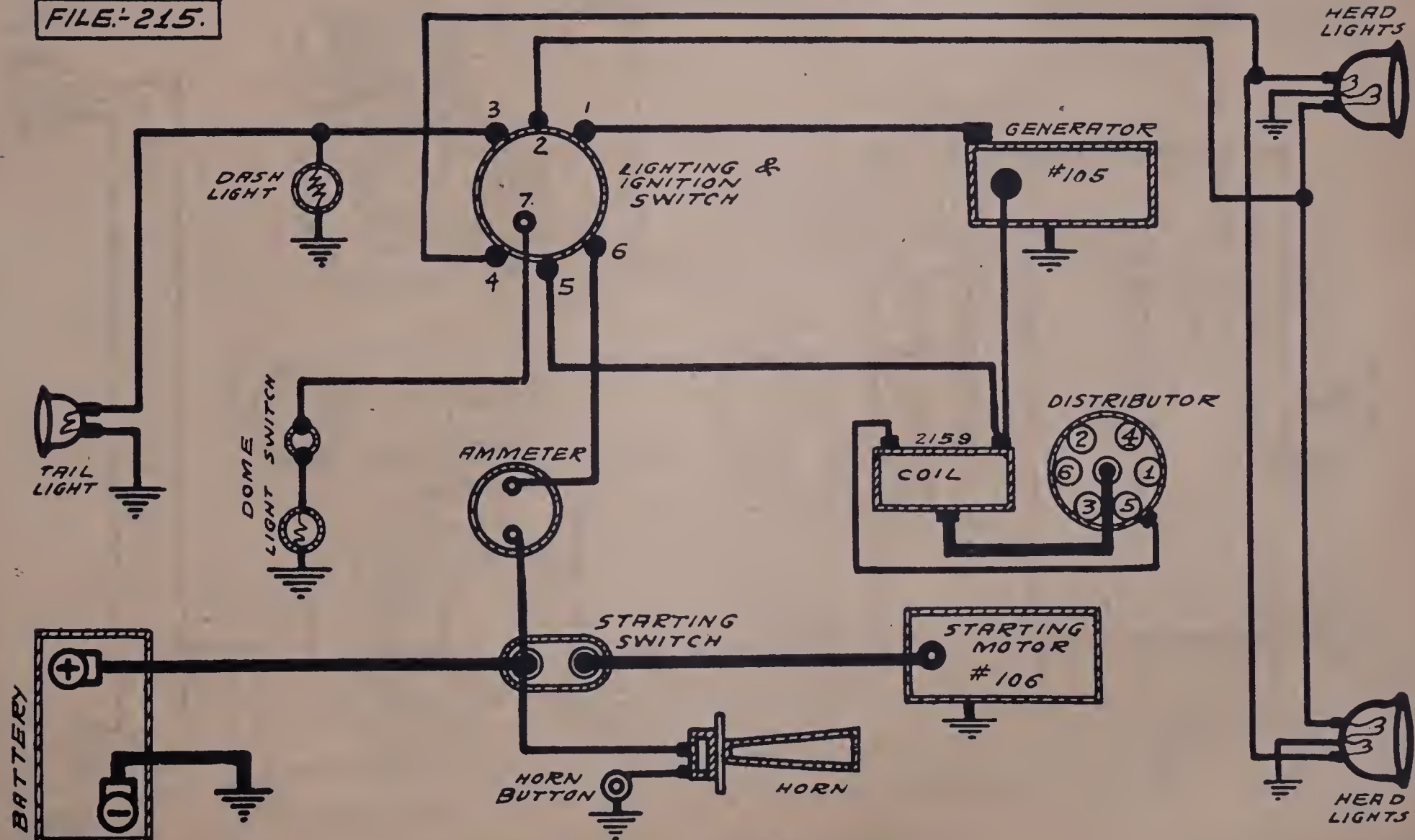


1919.

DAVIS

MODELS; 6-H, 6-I, 6-J, 6-K.
6-VOLT, DELCO SYSTEM

FILE:-215.

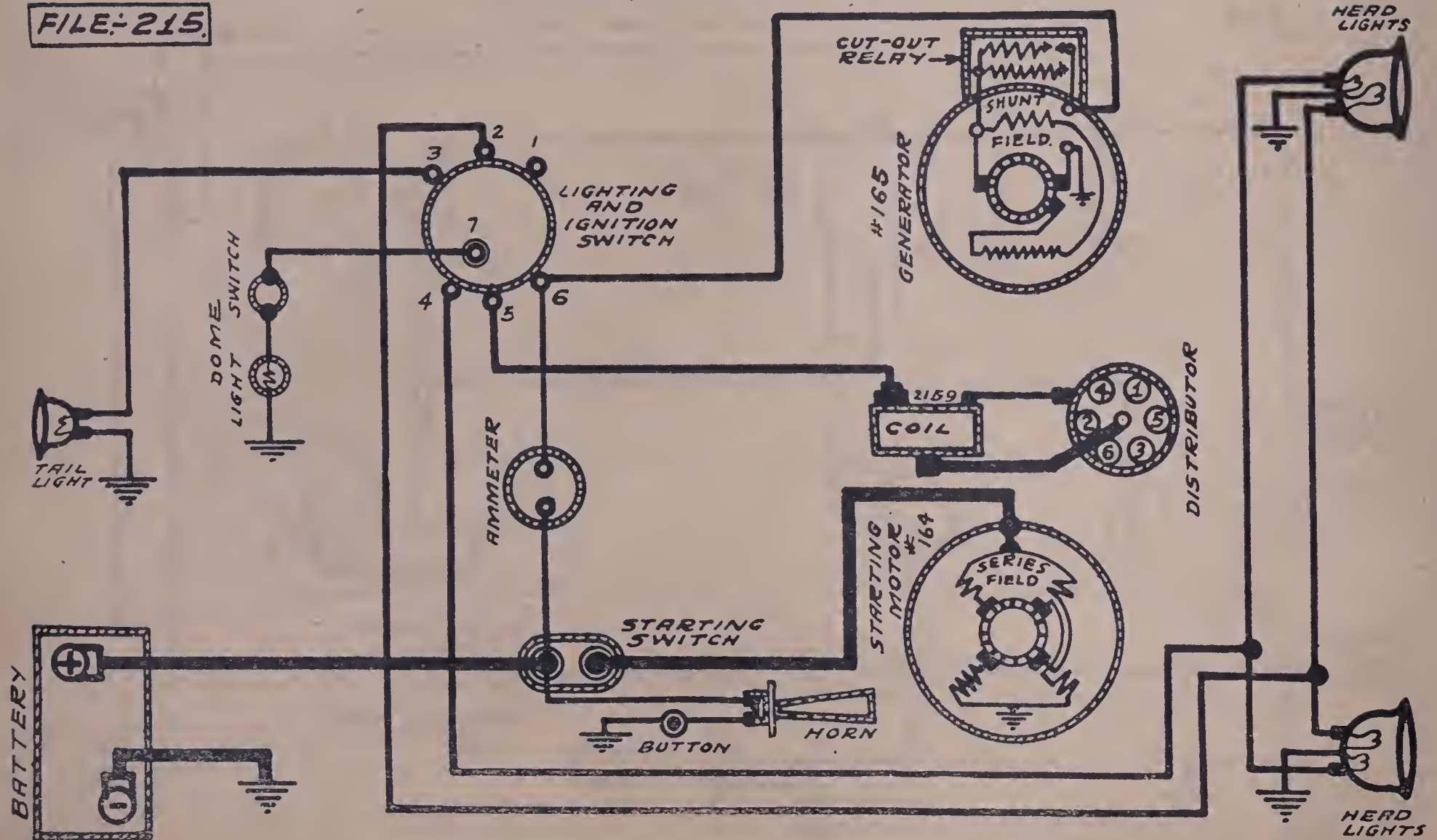


DAVIS

1920.

MODEL 7-N.
6-VOLT, -DELCO SYSTEM.

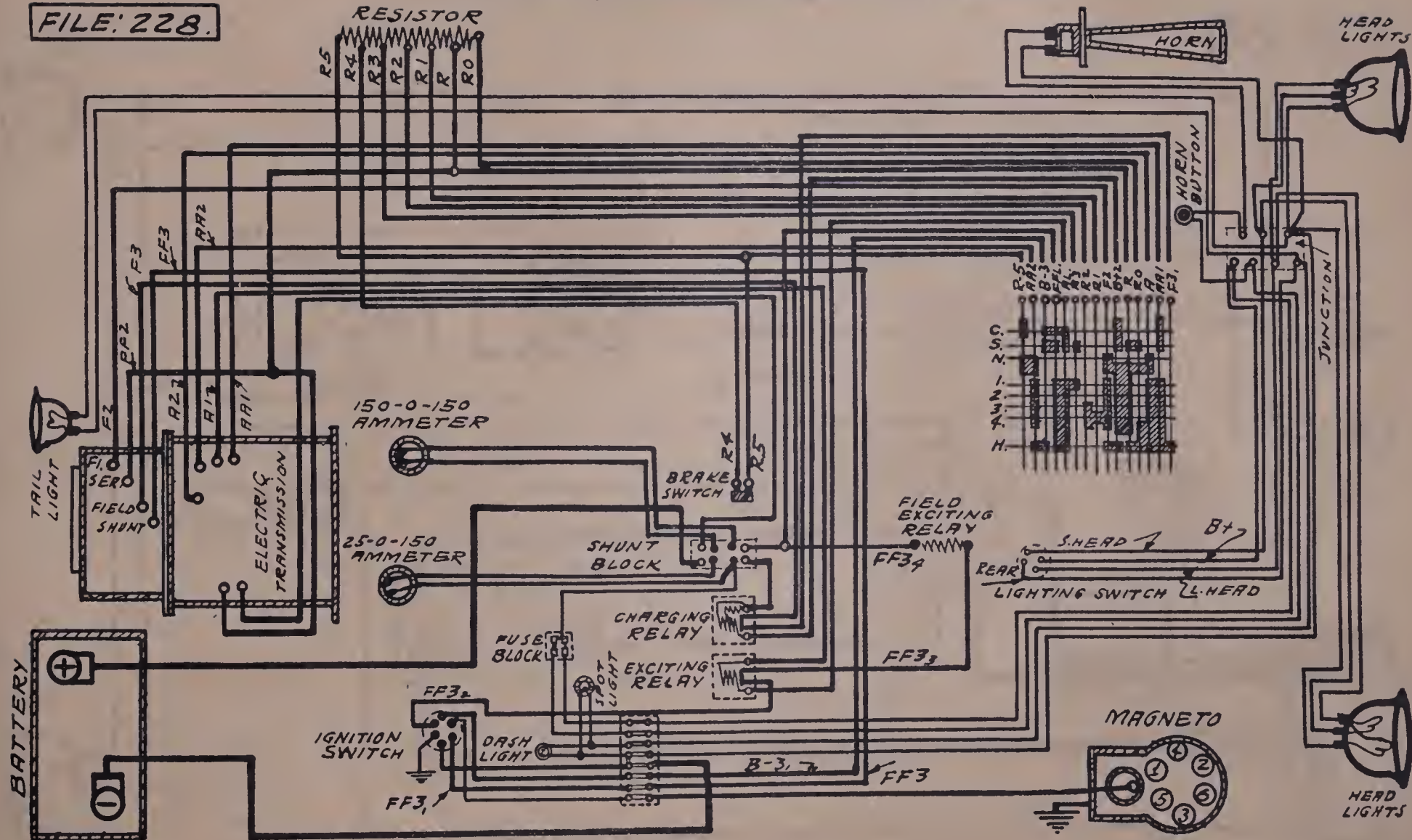
FILE-215.



DEERING-MAGNETIC

24 VOLT, OWEN-MAGNETIC SYSTEM.

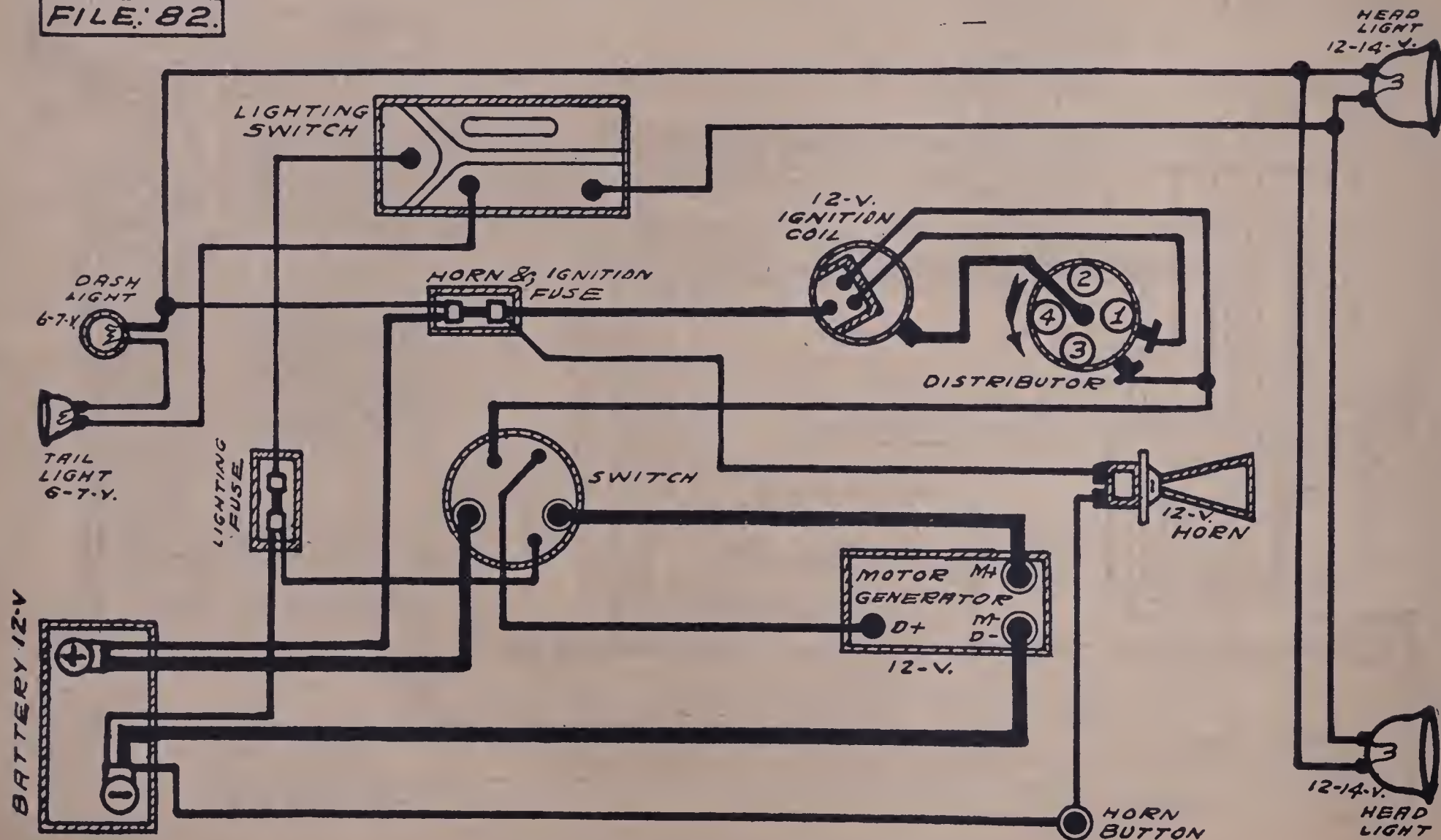
FILE: 228.



DIXIE FLYER

1916-
USED ON FIRST 2200 CARS.
12-VOLT, -DYNETO SYSTEM

FILE: 82.



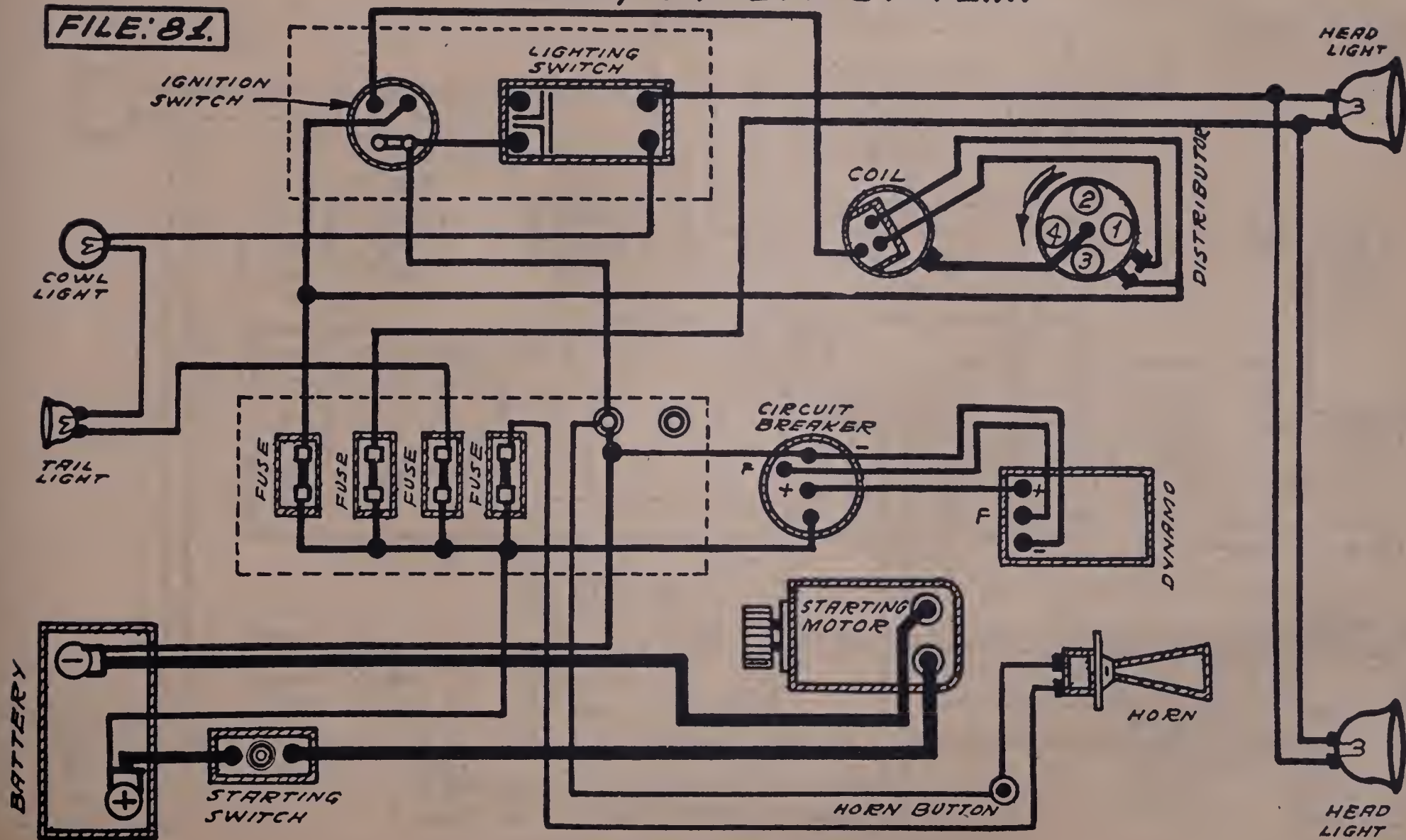
DIXIE FLYER

1916-1917

-SERIES# 2200 TO 3500-

MODEL-L-3.

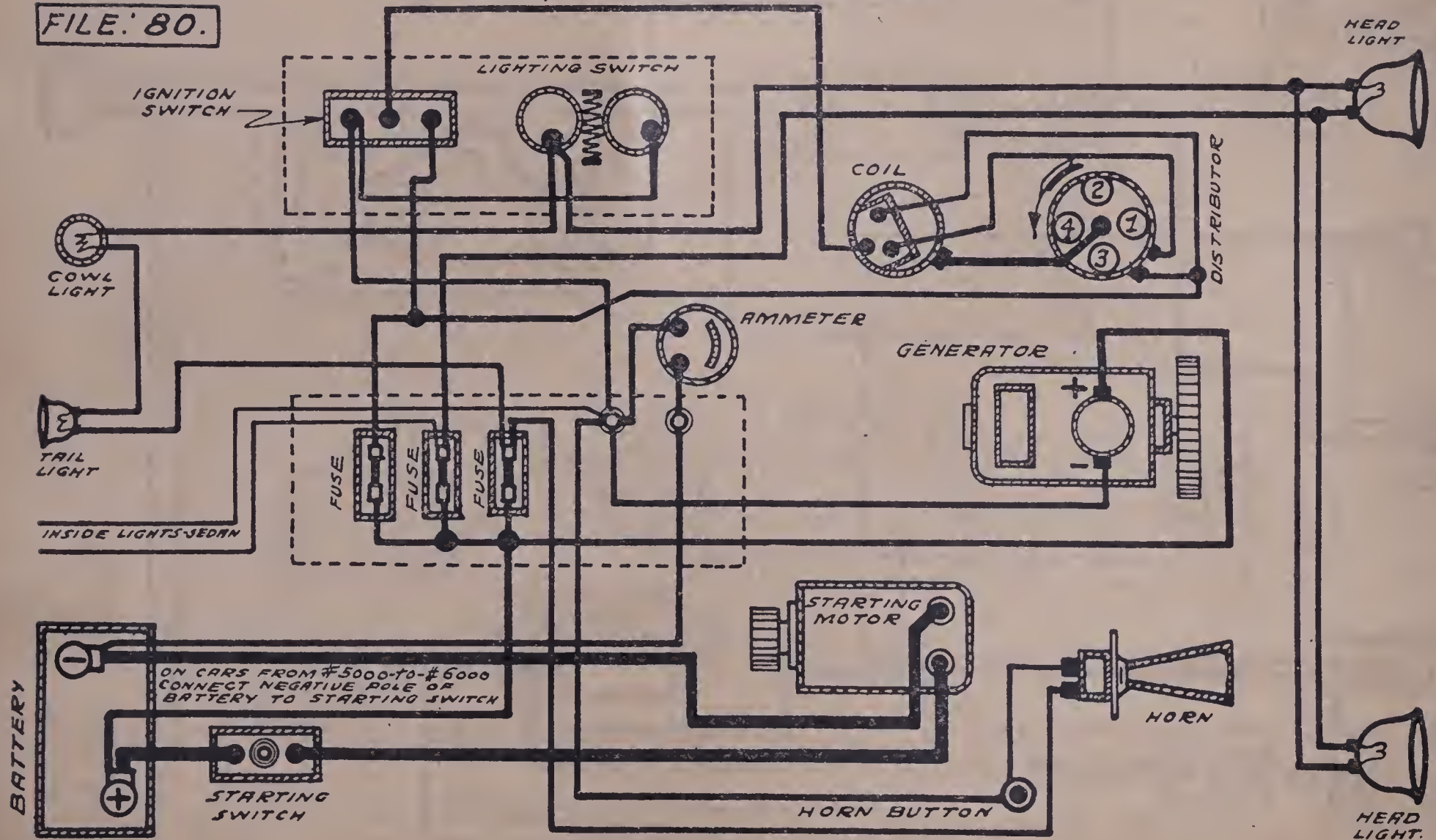
6-VOLT,- DYNETO SYSTEM.



DIXIE FLYER

1918-MODEL-L-SERIES 3500-5000. 1919-MODEL-H-SERIES 5000 to 6000.
6-VOLT,- DYNETO SYSTEM.

FILE: 80.

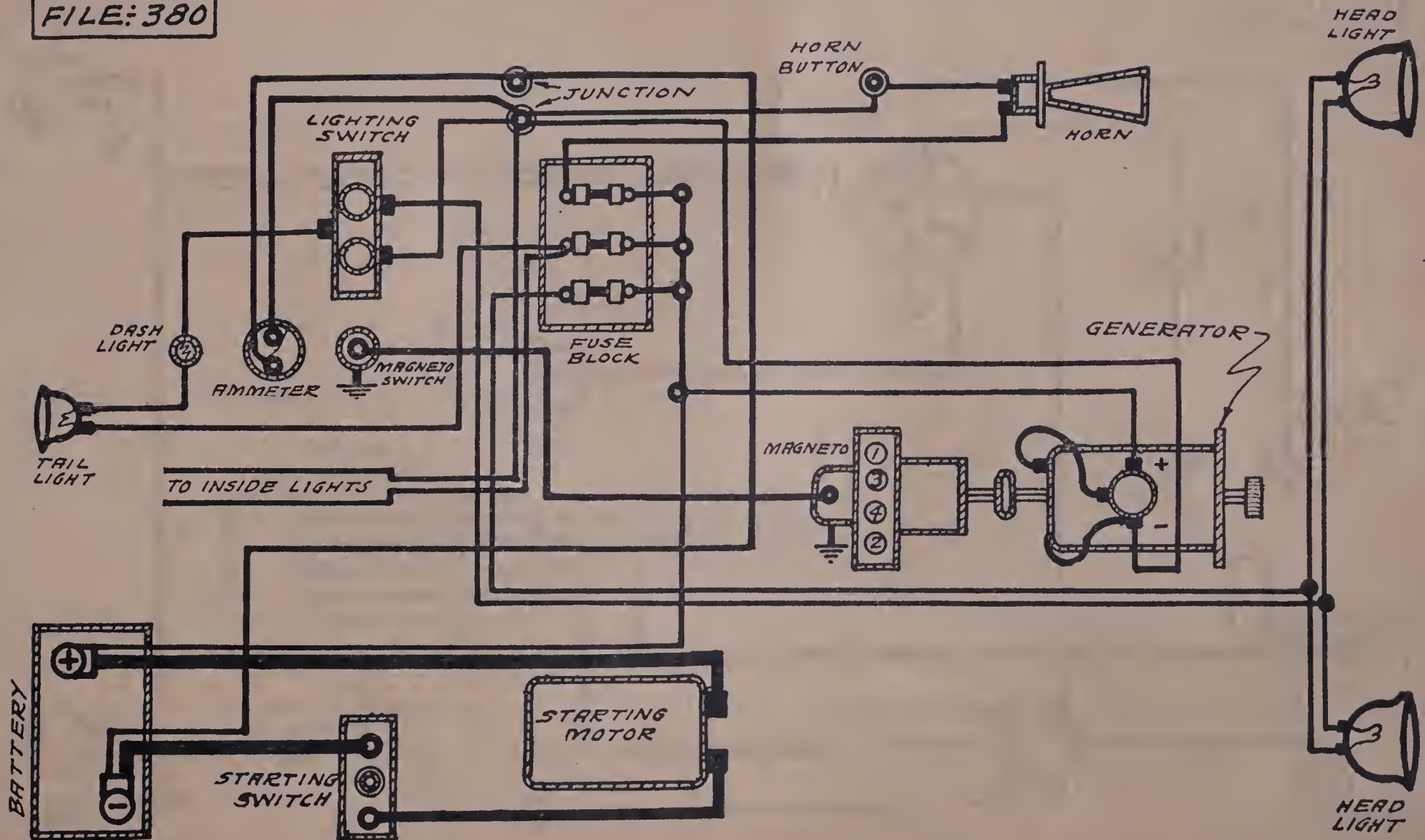


DIXIE-FLYER

1920 MODEL

6-VOLT, DYNETO SYSTEM.

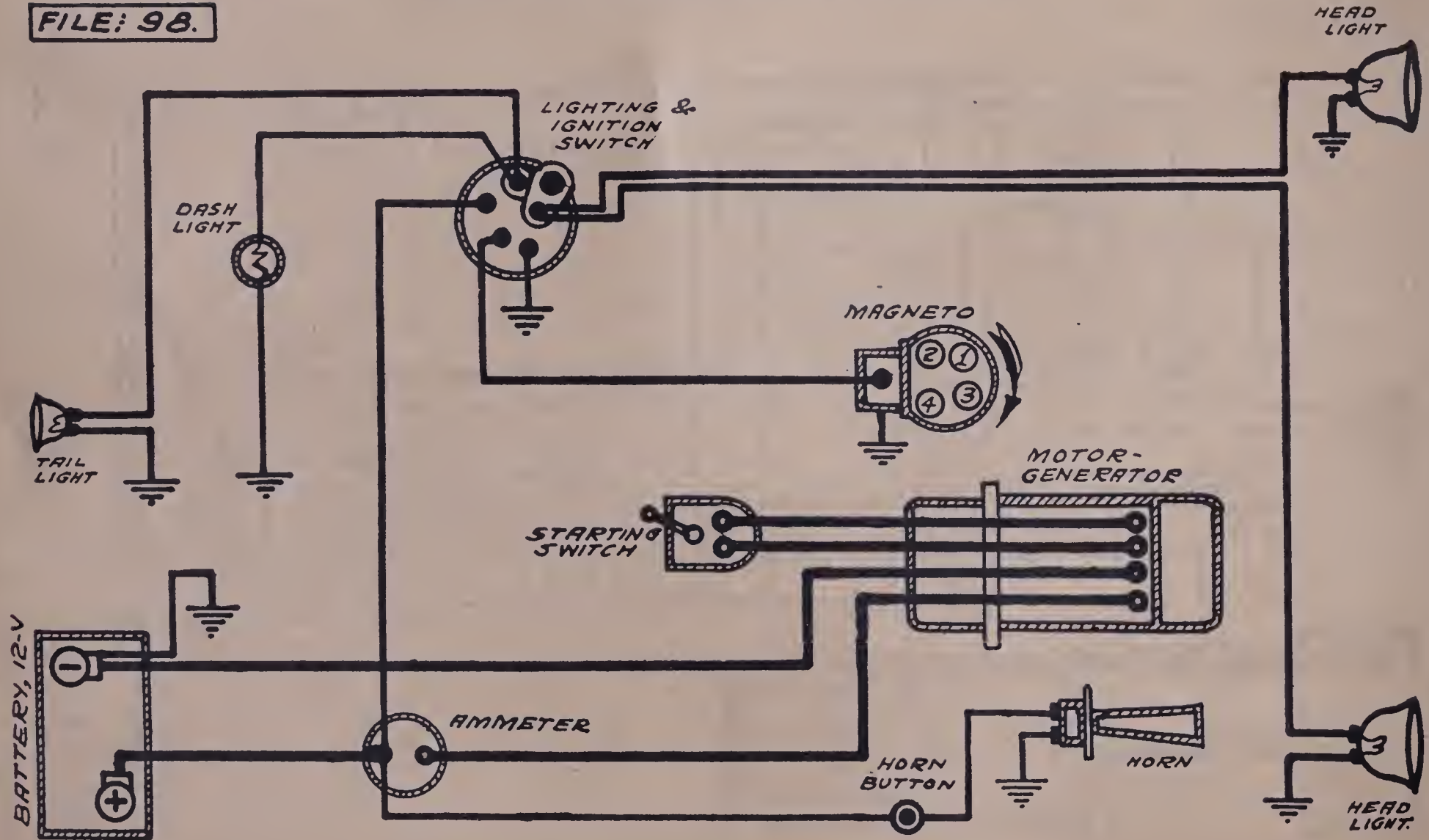
FILE: 380



DODGE

USED ON CARS FROM #1-TO-#69742.
12-VOLT, NORTHEAST SYSTEM.

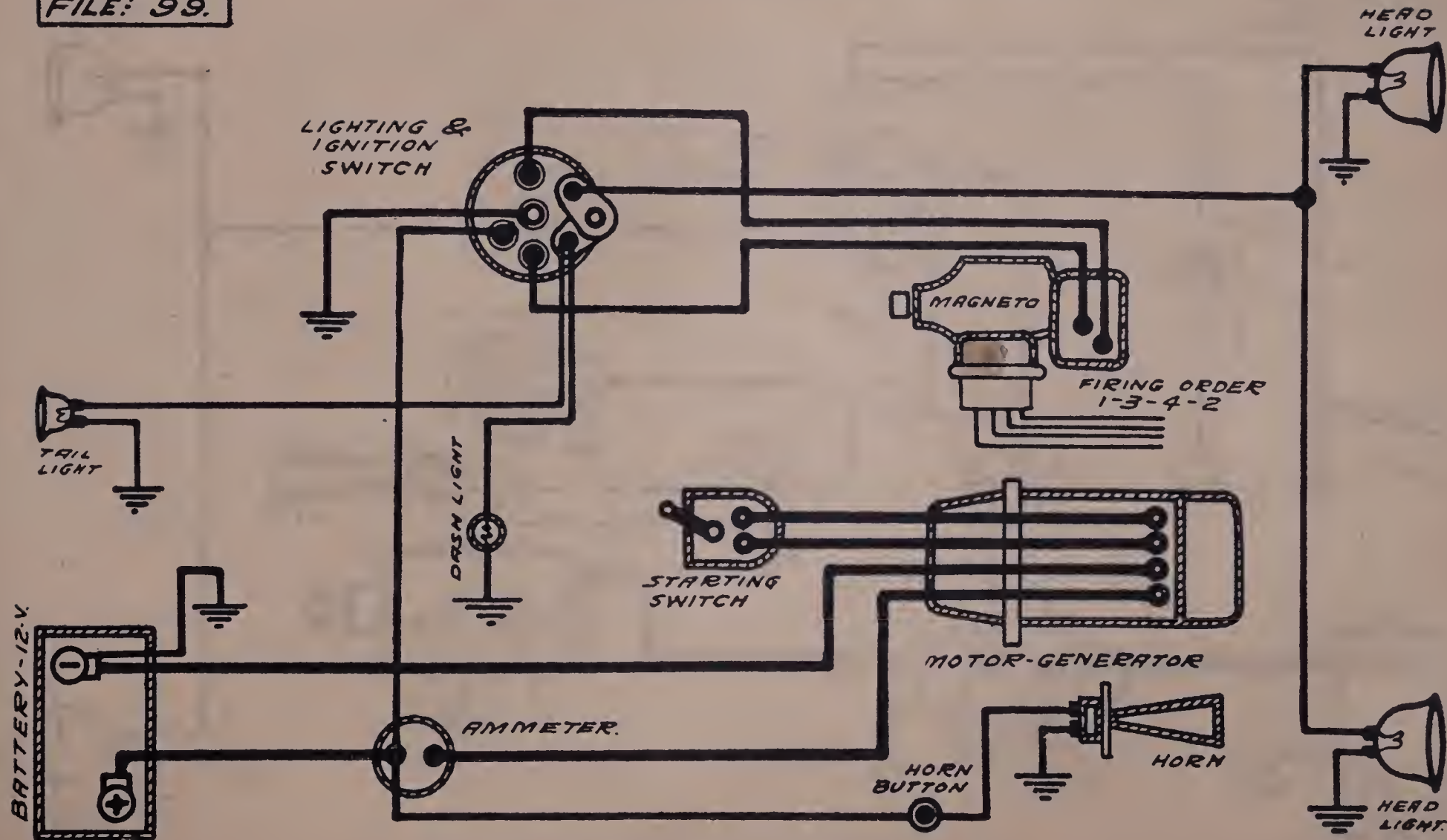
FILE: 98.



DODGE

USED ON CARS #69,743-TO-90,000.
12-VOLT, NORTHEAST SYSTEM.

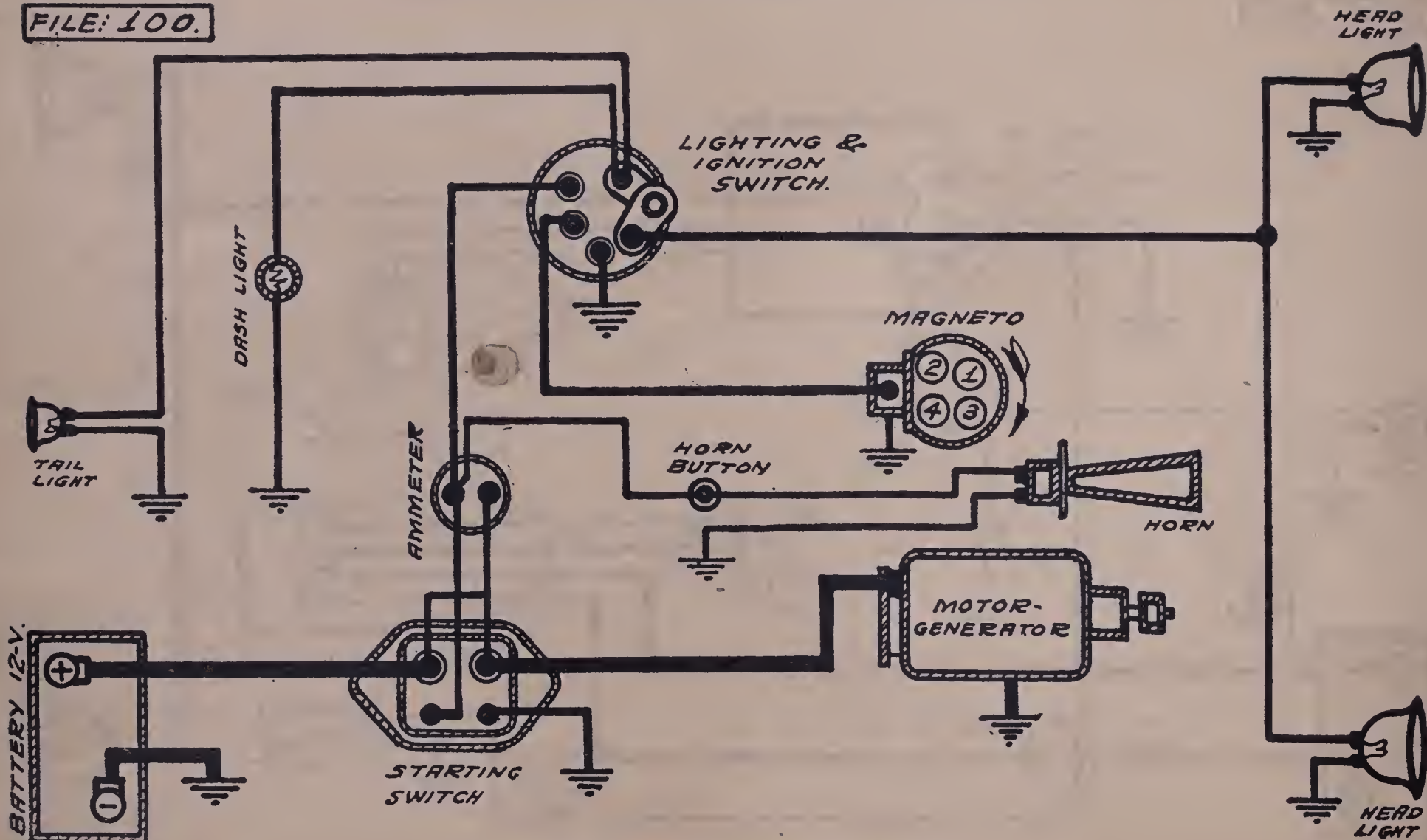
FILE: 99.



DODGE

USED ON CARS FROM #90,000 - TO - #275,255.
12-VOLT, NORTHEAST SYSTEM.

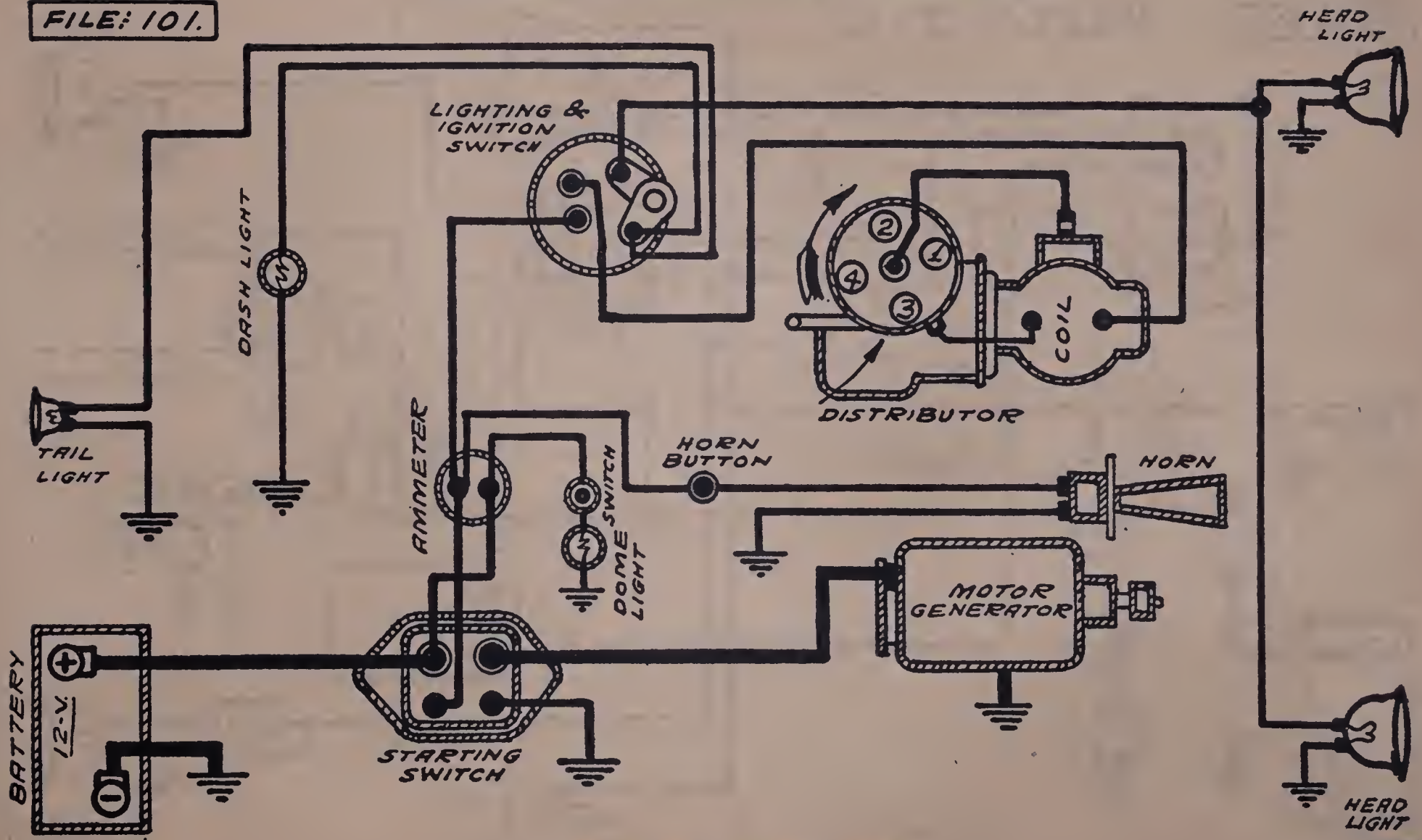
FILE: 100.



DODGE

USED ON CARS FROM #275255 UP.
12-VOLT, NORTHEAST SYSTEM.

FILE: 101.



DORRIS

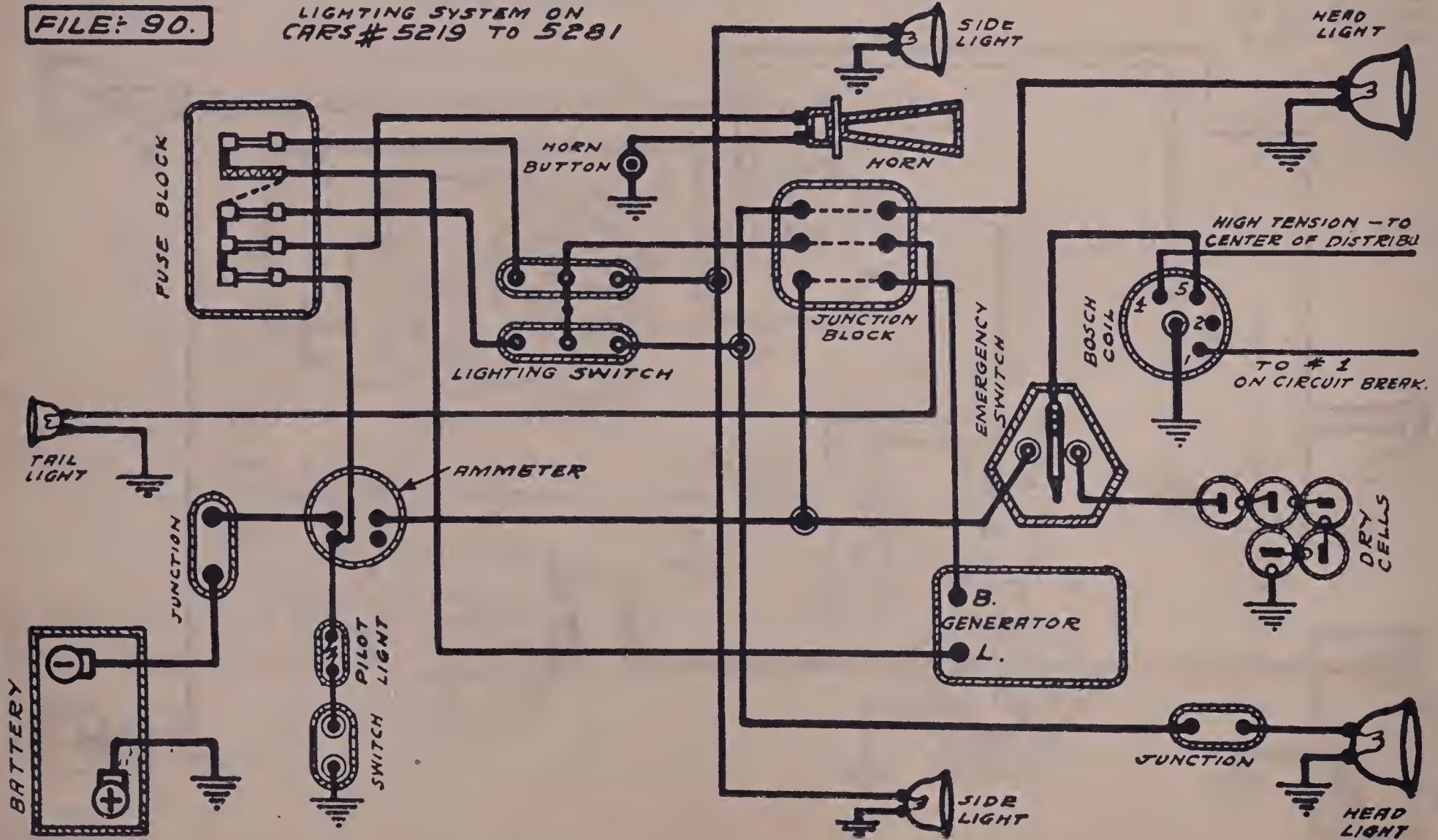
1913

MODEL - H.

6-VOLT, WESTINGHOUSE SYSTEM

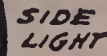
FILE: 90.

LIGHTING SYSTEM ON
CARS # 5219 TO 5281



6-VOLT, WESTINGHOUSE SYSTEM

LIGHTING
SWITCH



HEAD
LIGHT

JUNCTION
BLOCK


L.
GENERATOR
B.

HORN.
BUTTON

HORN

**SPEEDOMETER
LIGHT**

DASH LIGHT



TAIL
LIGHT

AMMETER

**TROUBLE
PLUG**

JUNCTION
BLOCK

EMERGENCY
SWITCH

A close-up photograph of a Bosch coil terminal. The terminal is a metal screw terminal with the words "BOSCH" and "COIL" embossed on it. It is connected to a ground wire, which is a thick, dark metal strap.

DISTRIBUTOR

STARTING SWITCH

STARTING MOTOR

6-DRY CELLS

**SIDE
LIGHT**

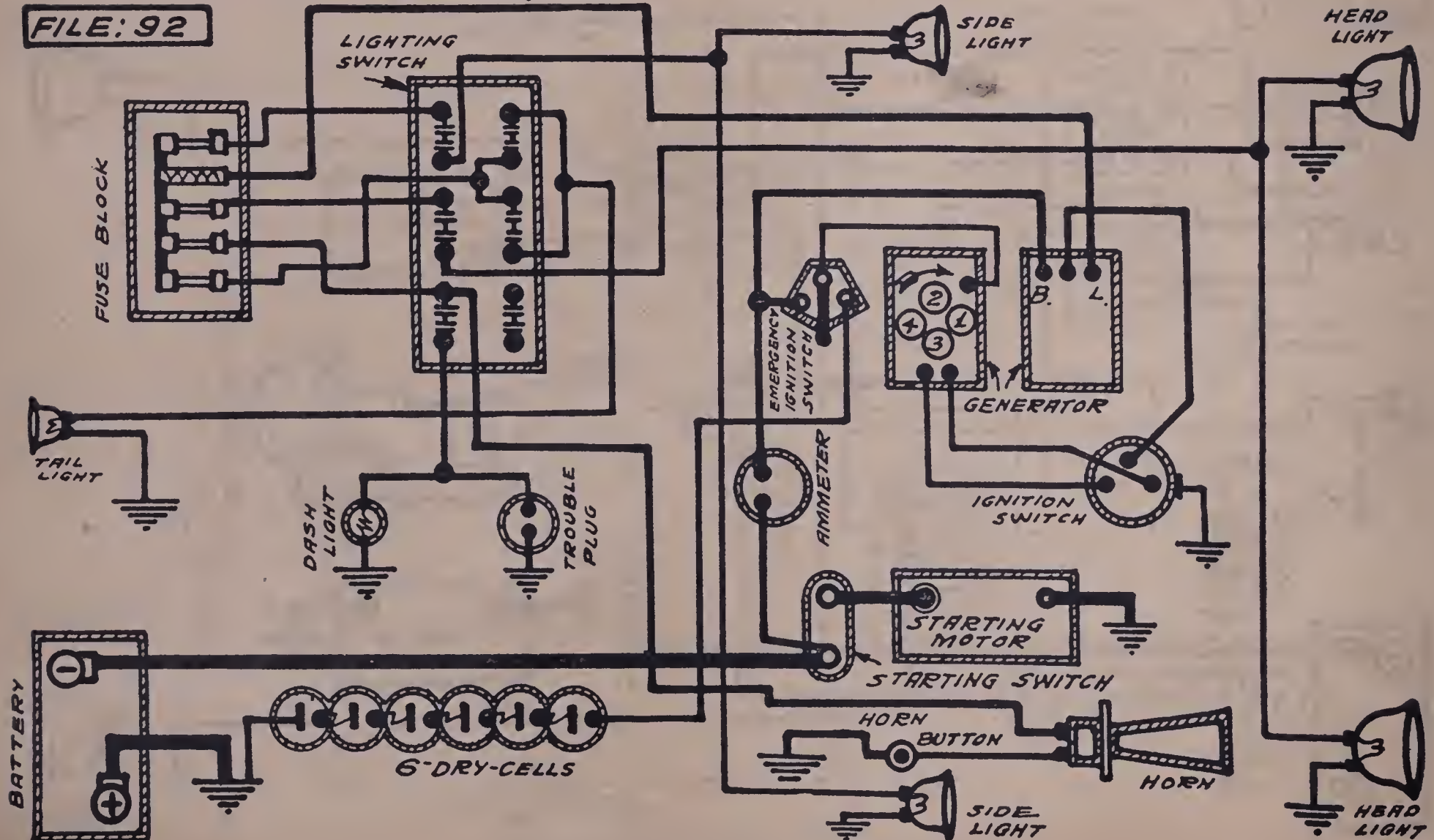
HEAD
LIGHT

DORRIS

1915

MODEL-I-R-4.

6-VOLT, WESTINGHOUSE SYSTEM.



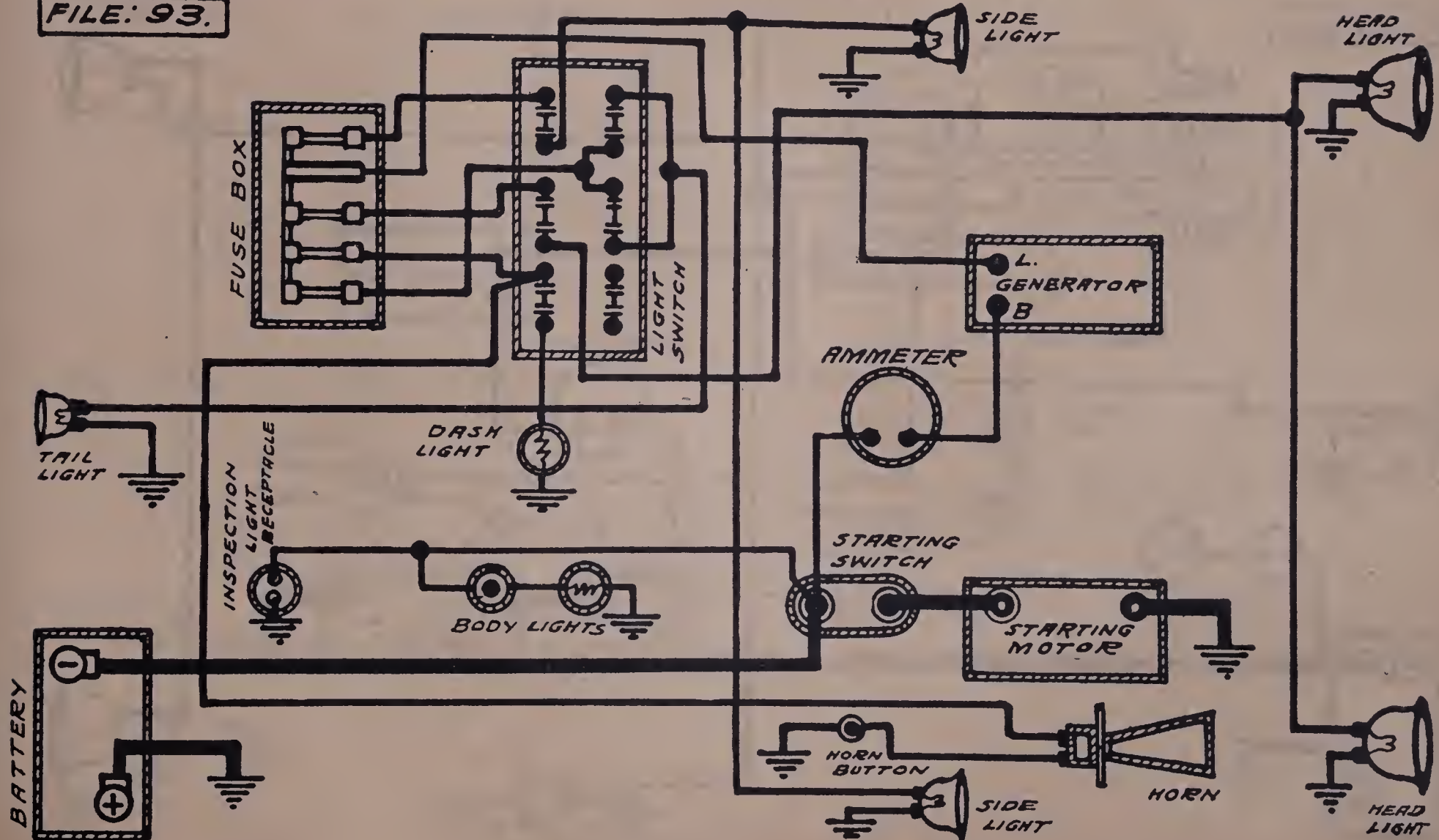
DORRIS

1915

MODEL - I-A-6.

6-VOLT, WESTINGHOUSE SYSTEM.

FILE: 93.



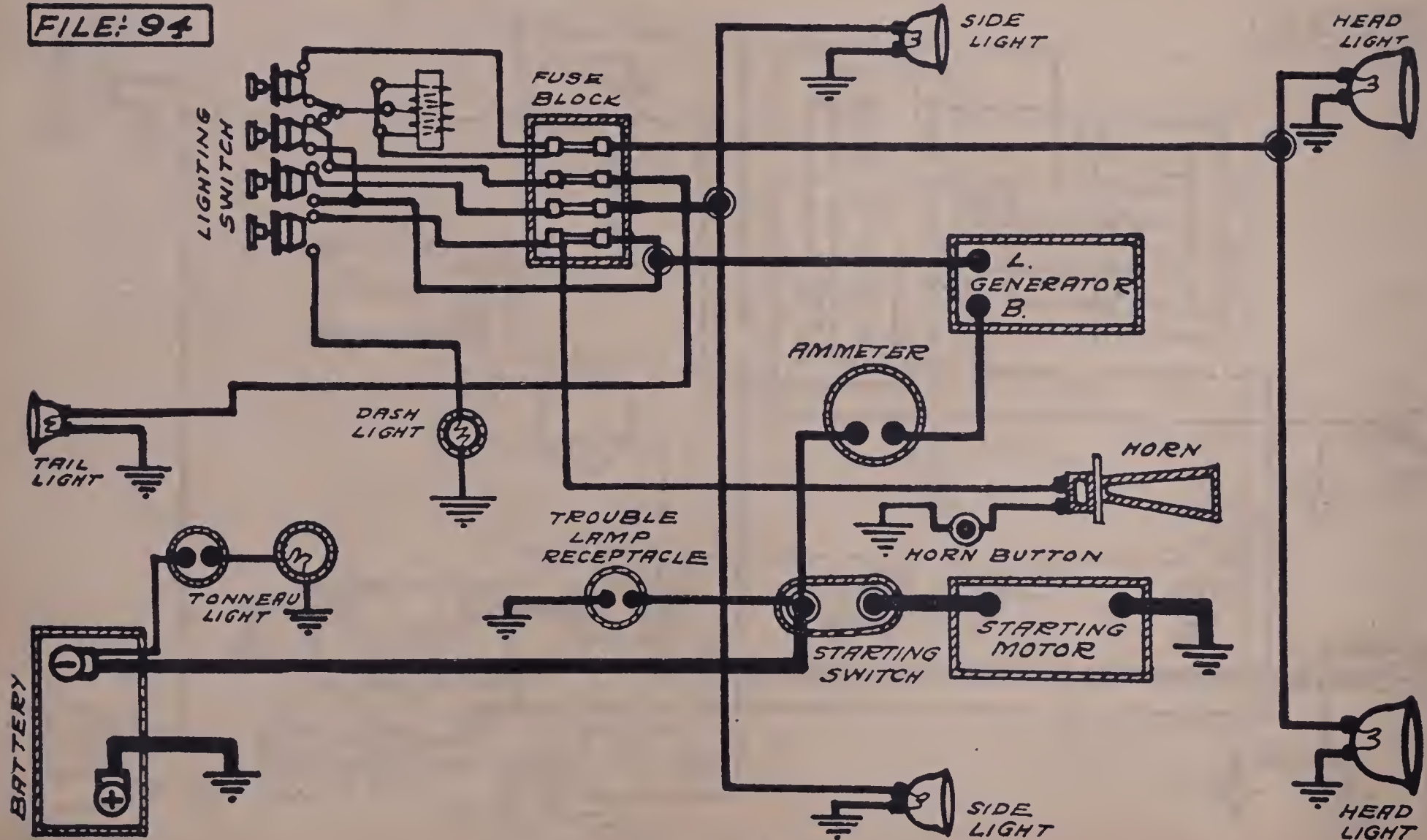
DORRIS

1916

MODEL-I-B-6.

6-VOLT, WESTINGHOUSE SYSTEM.

FILE: 94



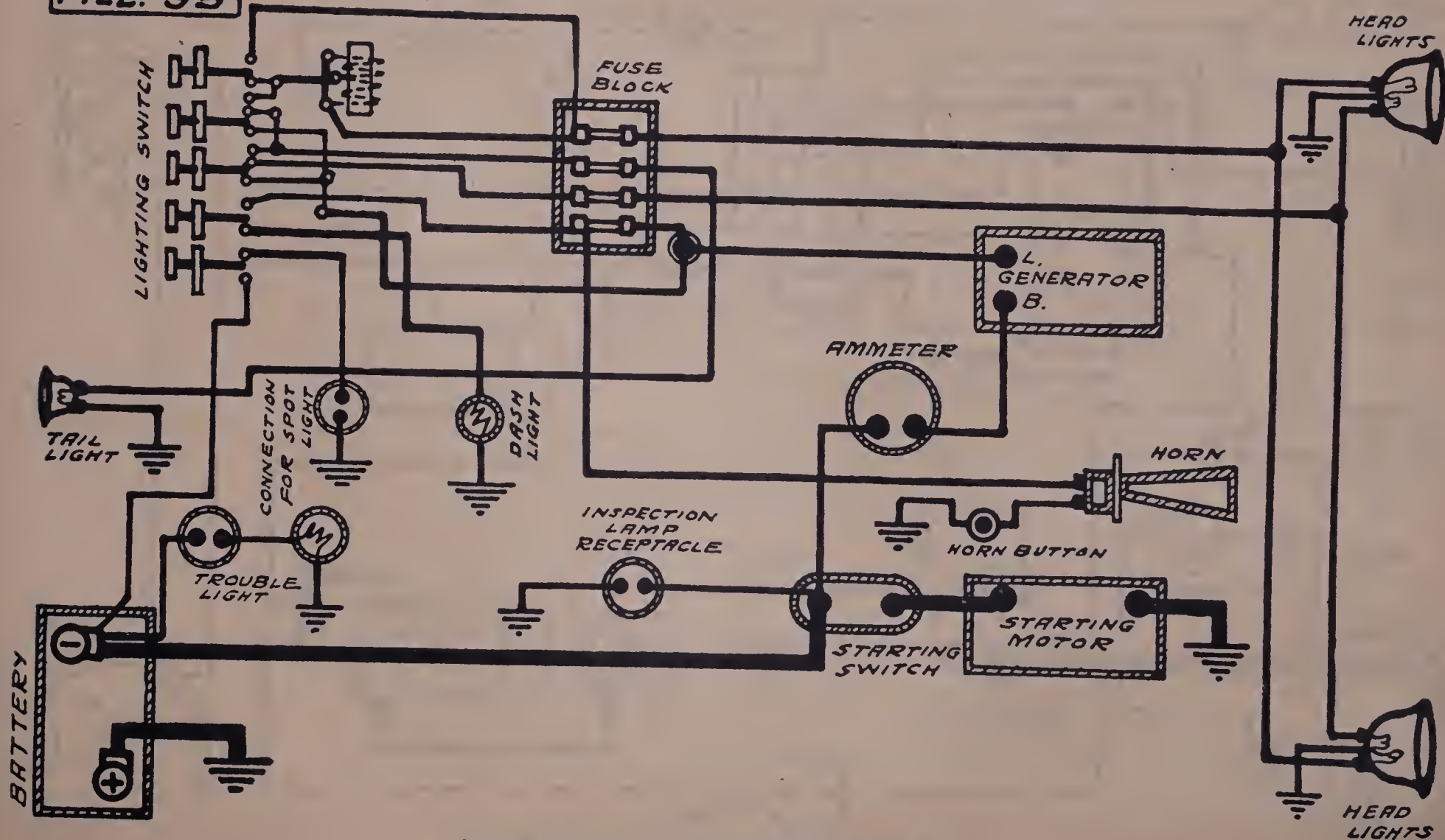
1917

DORRIS

MODEL-I-G-6.

6-VOLT, WESTINGHOUSE SYSTEM.

FILE: 95



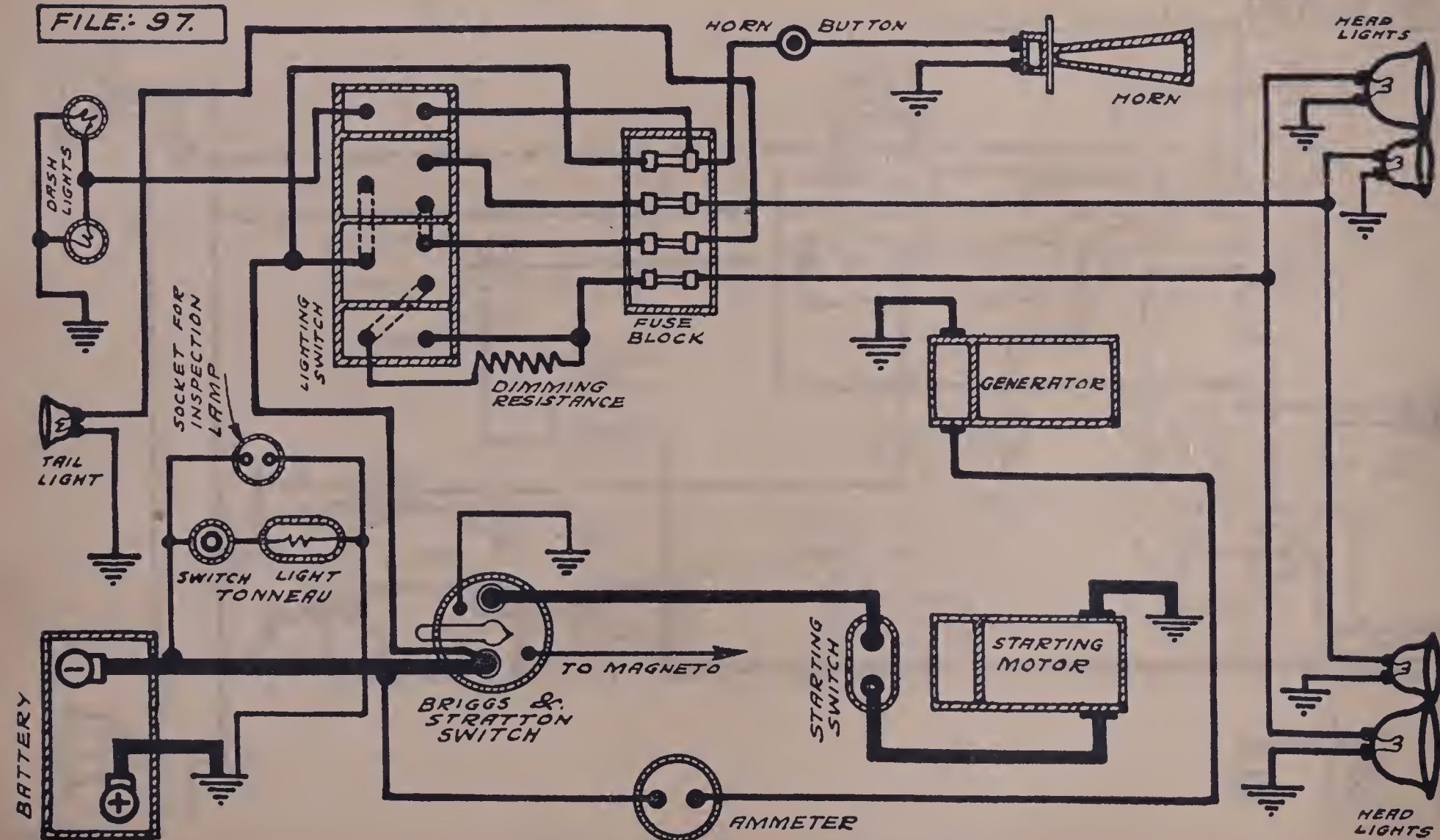
DORRIS

1918-1919-1920.

MODEL - 6-80.

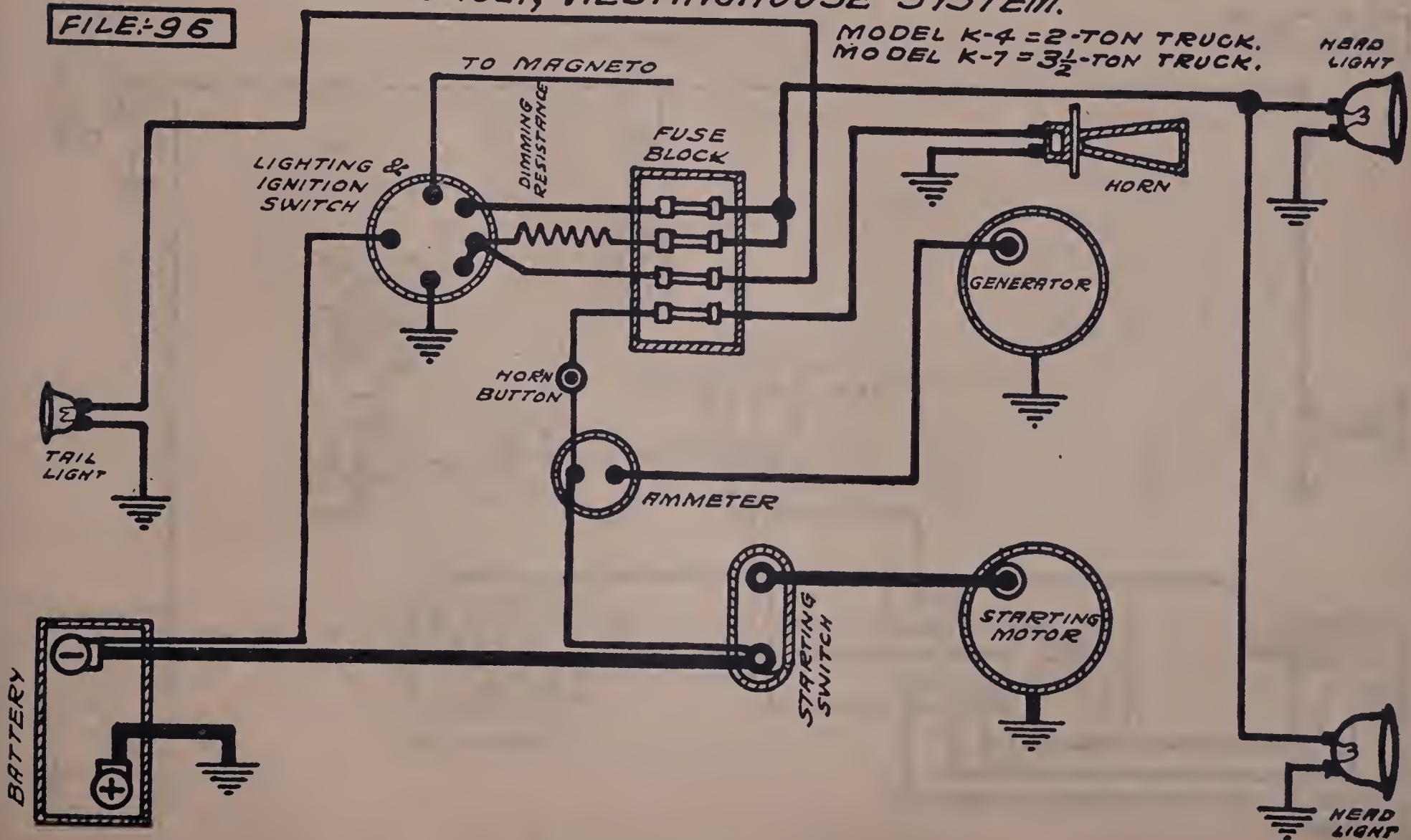
6-VOLT, -WESTINGHOUSE SYSTEM

FILE: 97.



DORRIS TRUCK

1918-1919-1920.-MODEL-K-4. 1919-1920.-MODEL-K-7.
6-VOLT, WESTINGHOUSE SYSTEM.



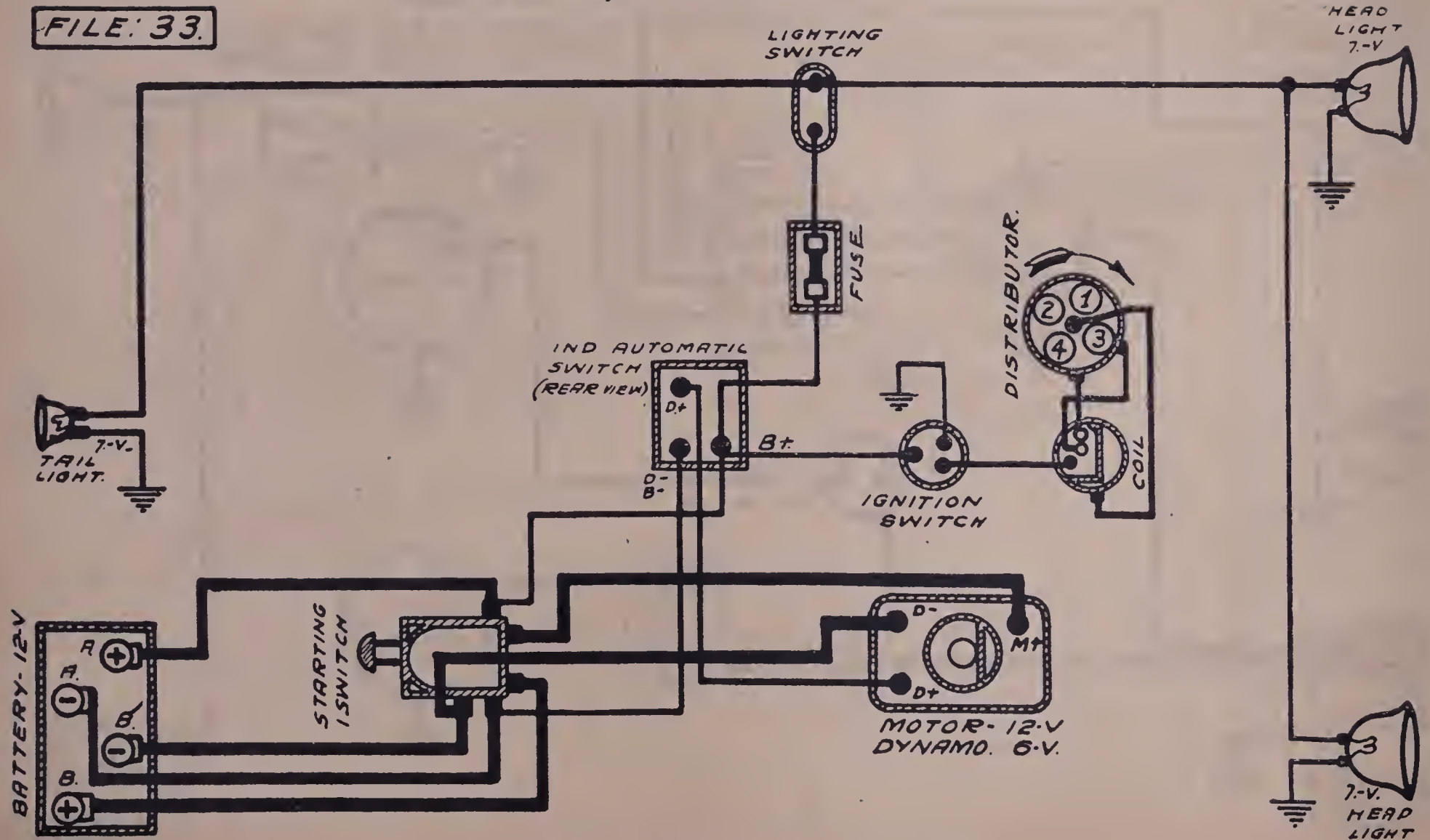
DORT

1915.

MODELS 4, & 5.

12-6-VOLT, SPLITDORF SYSTEM.

FILE 33.

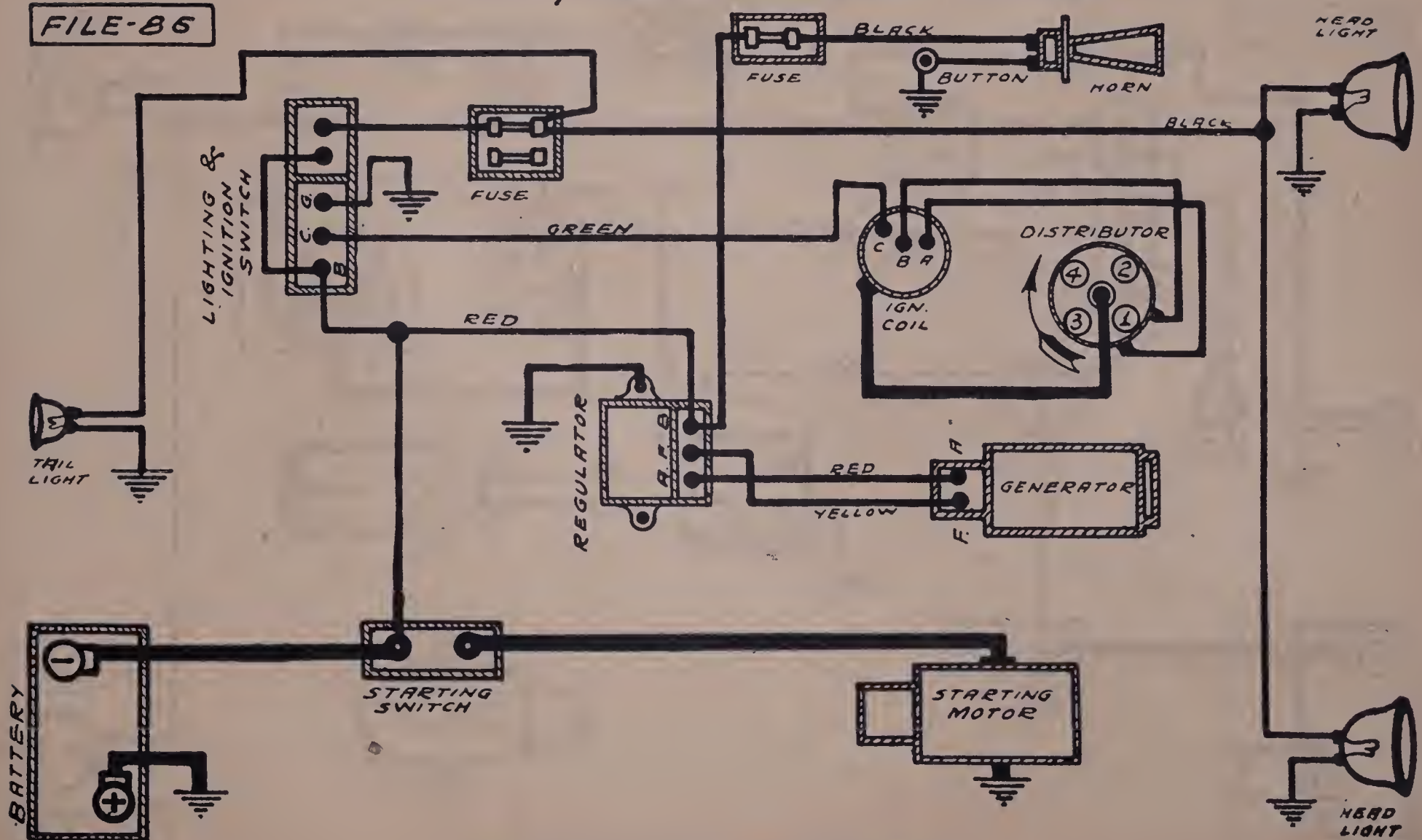


DORT

1916

MODEL 5-A

6-VOLT, WESTINGHOUSE SYSTEM



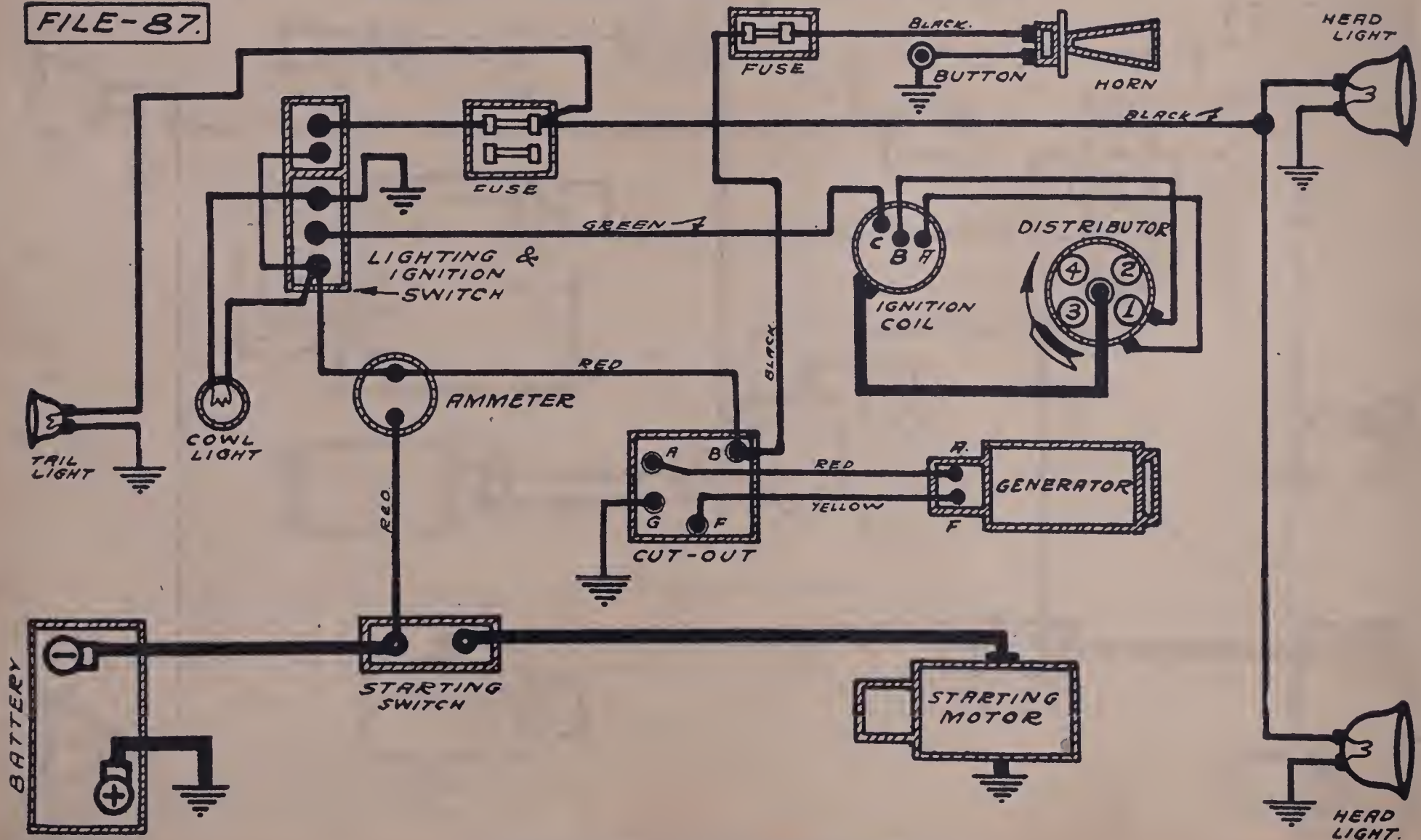
DORT

1917

-FIRST PART OF SEASON -
6-VOLT,- WESTINGHOUSE SYSTEM.

MODEL-6.

FILE-87.



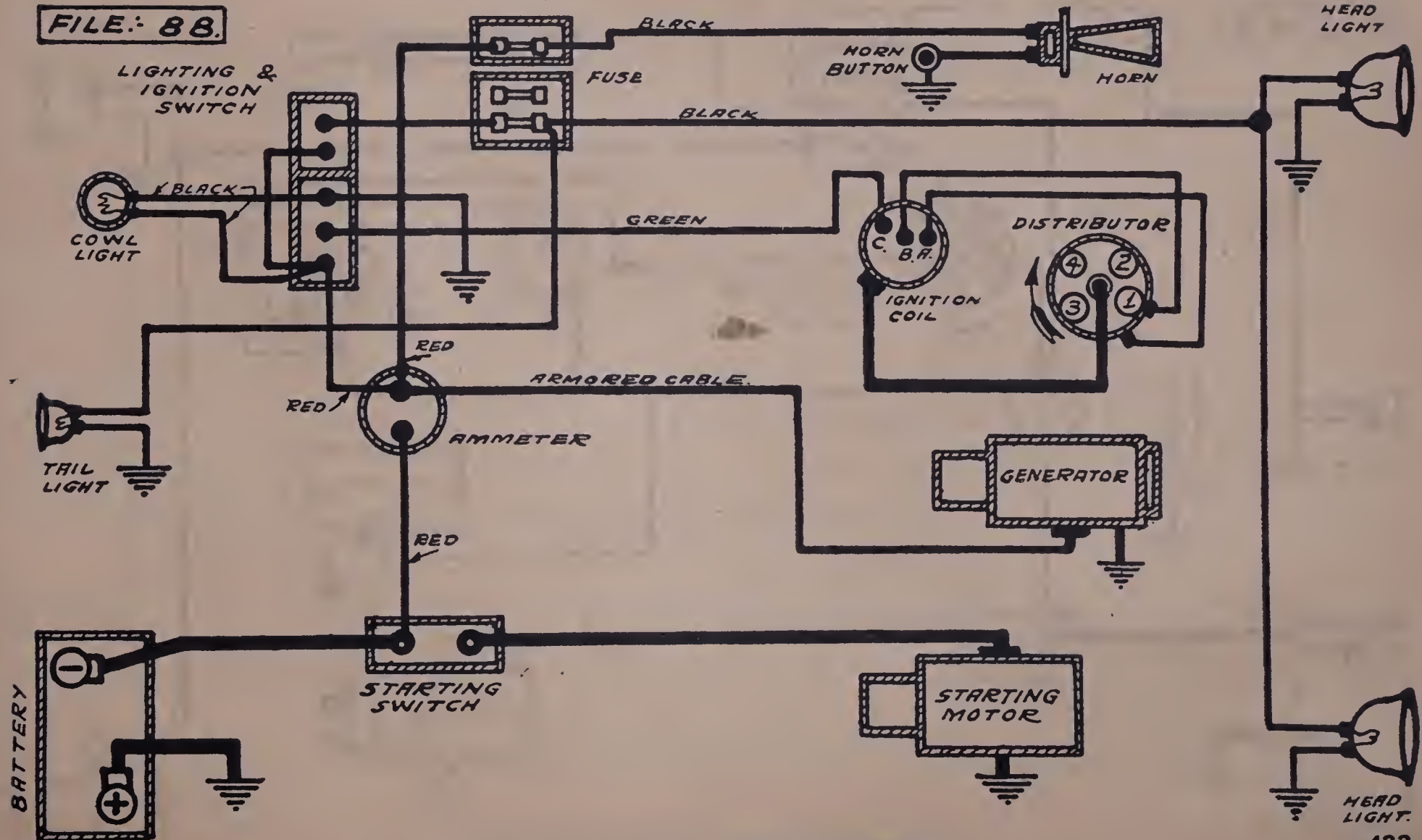
DORT

1917

-LAST PART OF SEASON-
6-VOLT, WESTINGHOUSE SYSTEM

MODEL -6,-9.

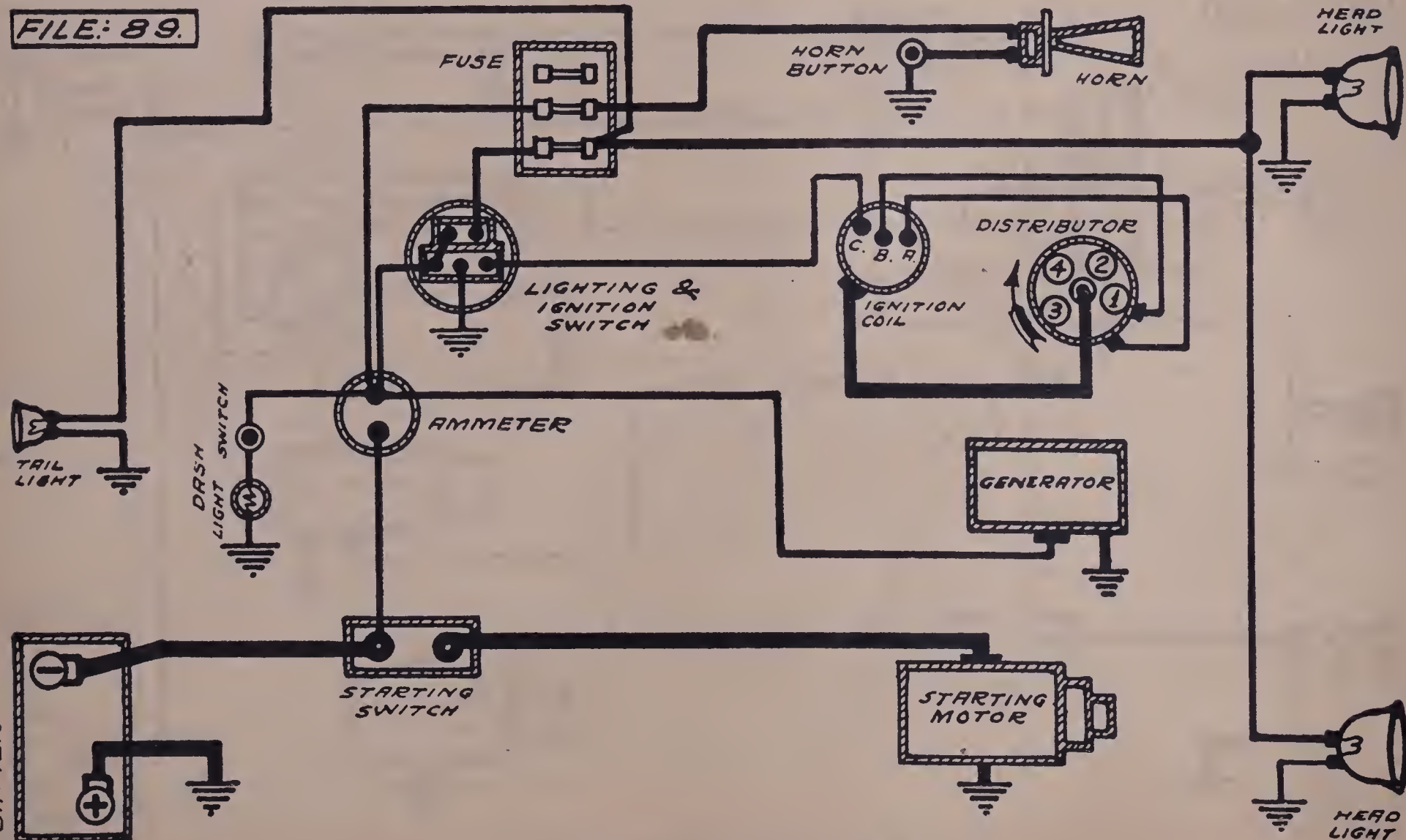
FILE: 88.



DORT

1918, MODEL-8-11-11T. 1919-1920, MODELS; 10-11-10C-15-15-S. ^{LEFT HAND DRIVE}
6-VOLT, WESTINGHOUSE SYSTEM.

FILE: 89.



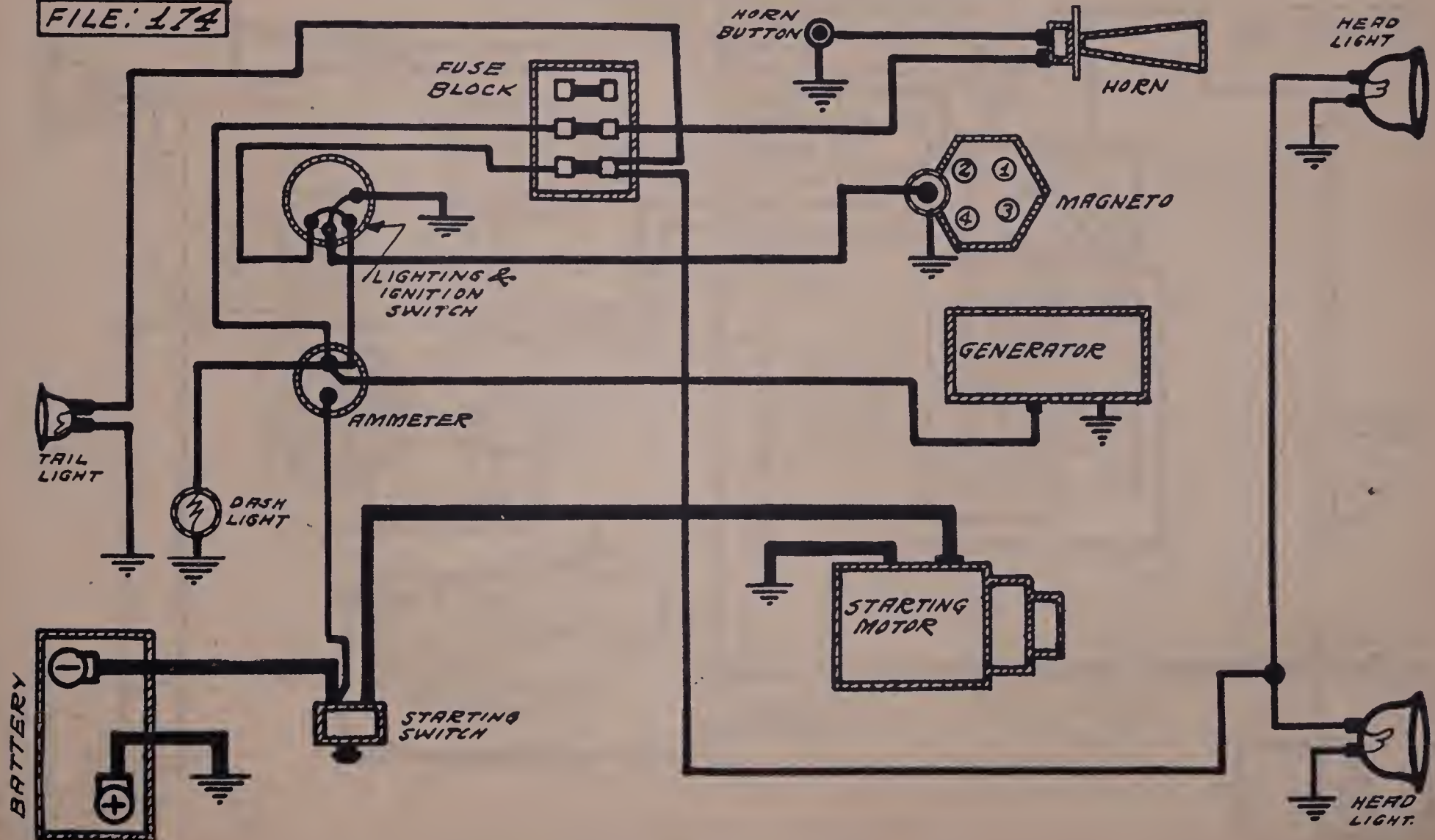
DORT

1919-1920

MODEL 39-39L-C39-C39L.

6-VOLT, WESTINGHOUSE SYSTEM.

FILE: 174



ELGIN

1917-1918.

MODEL-ELGIN-6.

6-VOLT, -WAGNER SYSTEM.

FILE: 103.

LIGHTING
& IGNITION
SWITCH

CUT-OUT

HORN
BUTTON

HORN

HEAD
LIGHTS

JUNCTION
BLOCK

GENERATOR

AMMETER

FUSE

DASH LIGHT

TAIL
LIGHT

COIL

DISTRIBUTOR

STARTING
MOTOR

STARTING
SWITCH

HEAD
LIGHTS

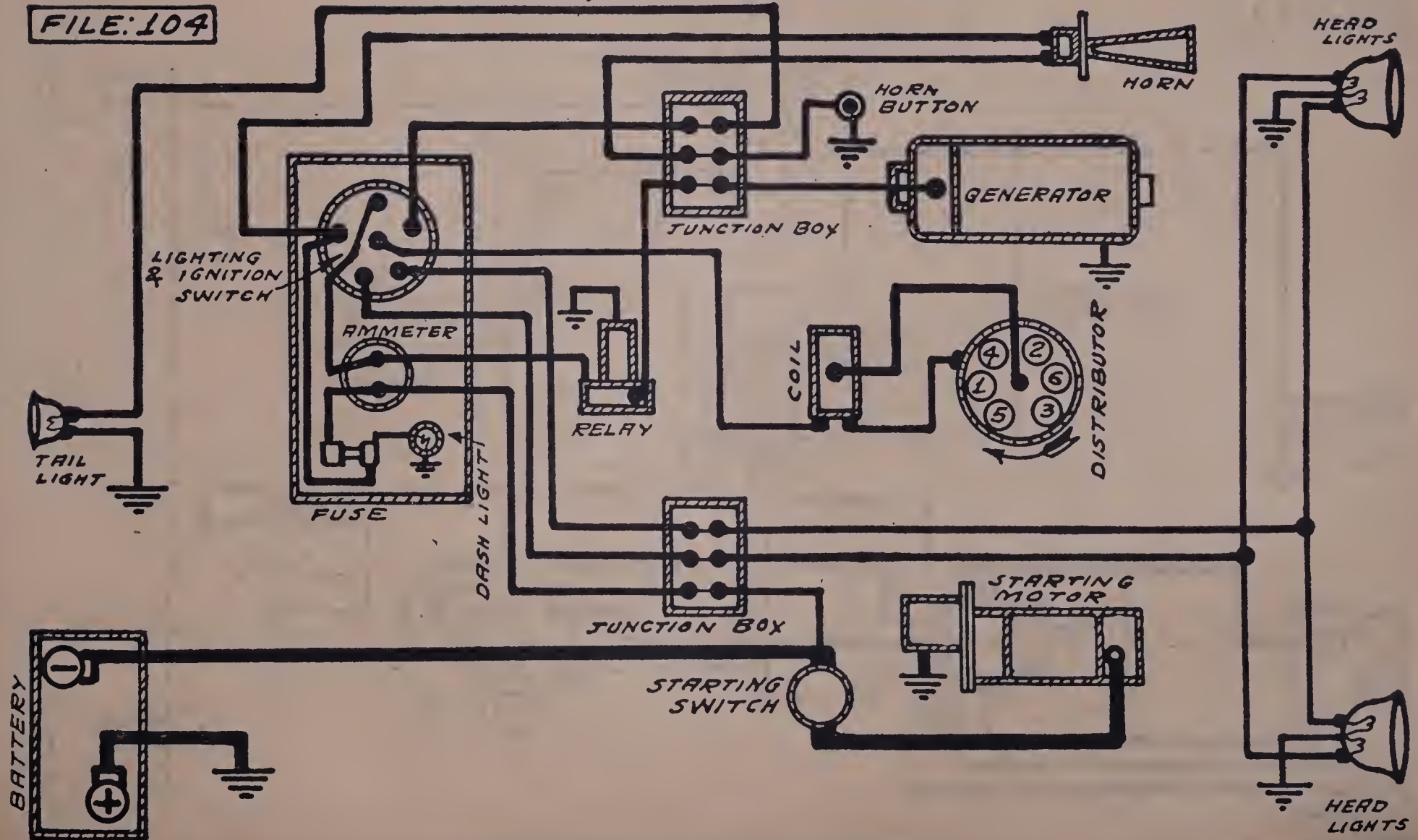
BATTERY

ELGIN

1919

MODEL-H.

6-VOLT, WAGNER SYSTEM.

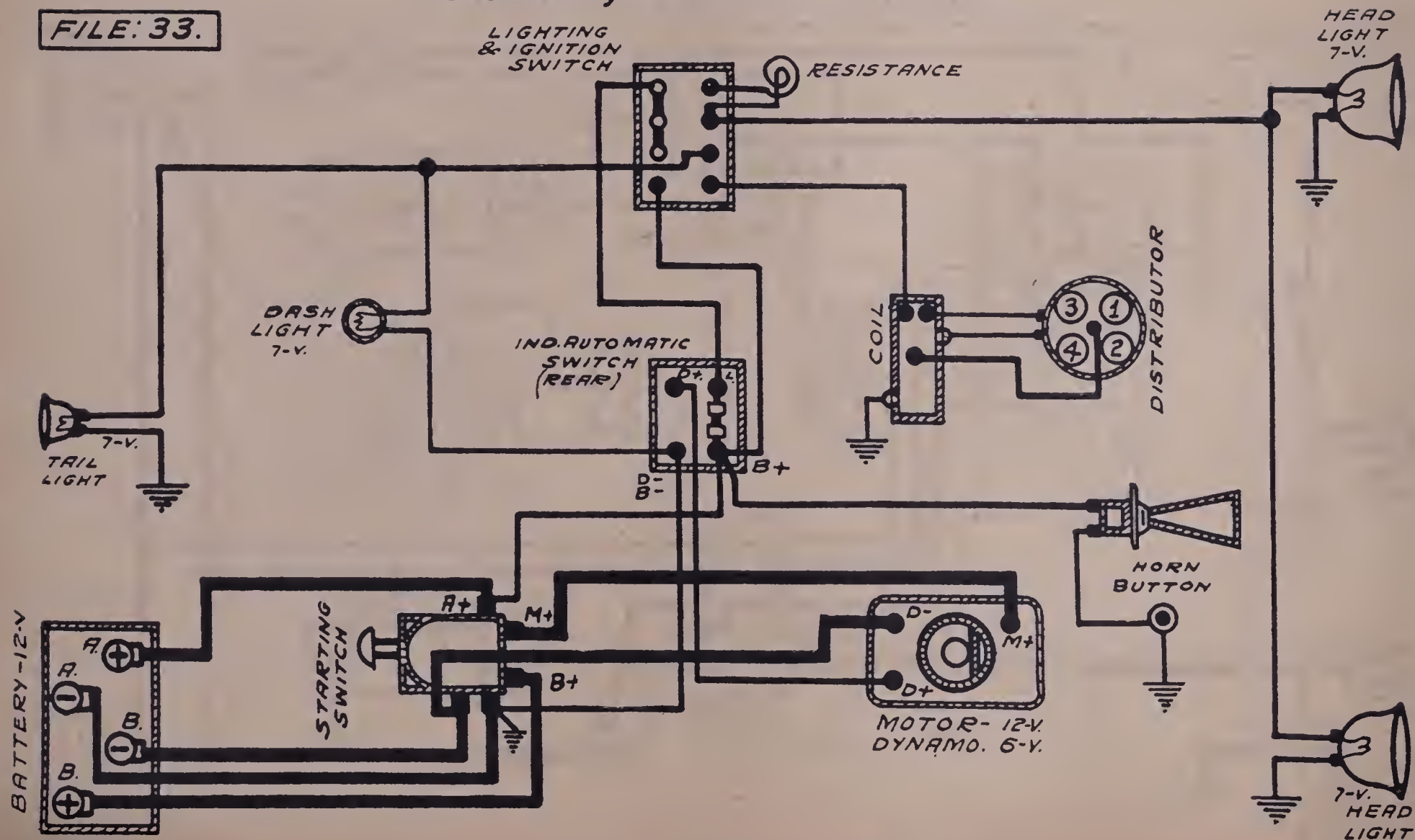


ELKHART

1916.

12-6-VOLT, SPLIT DORF SYSTEM

FILE: 33.



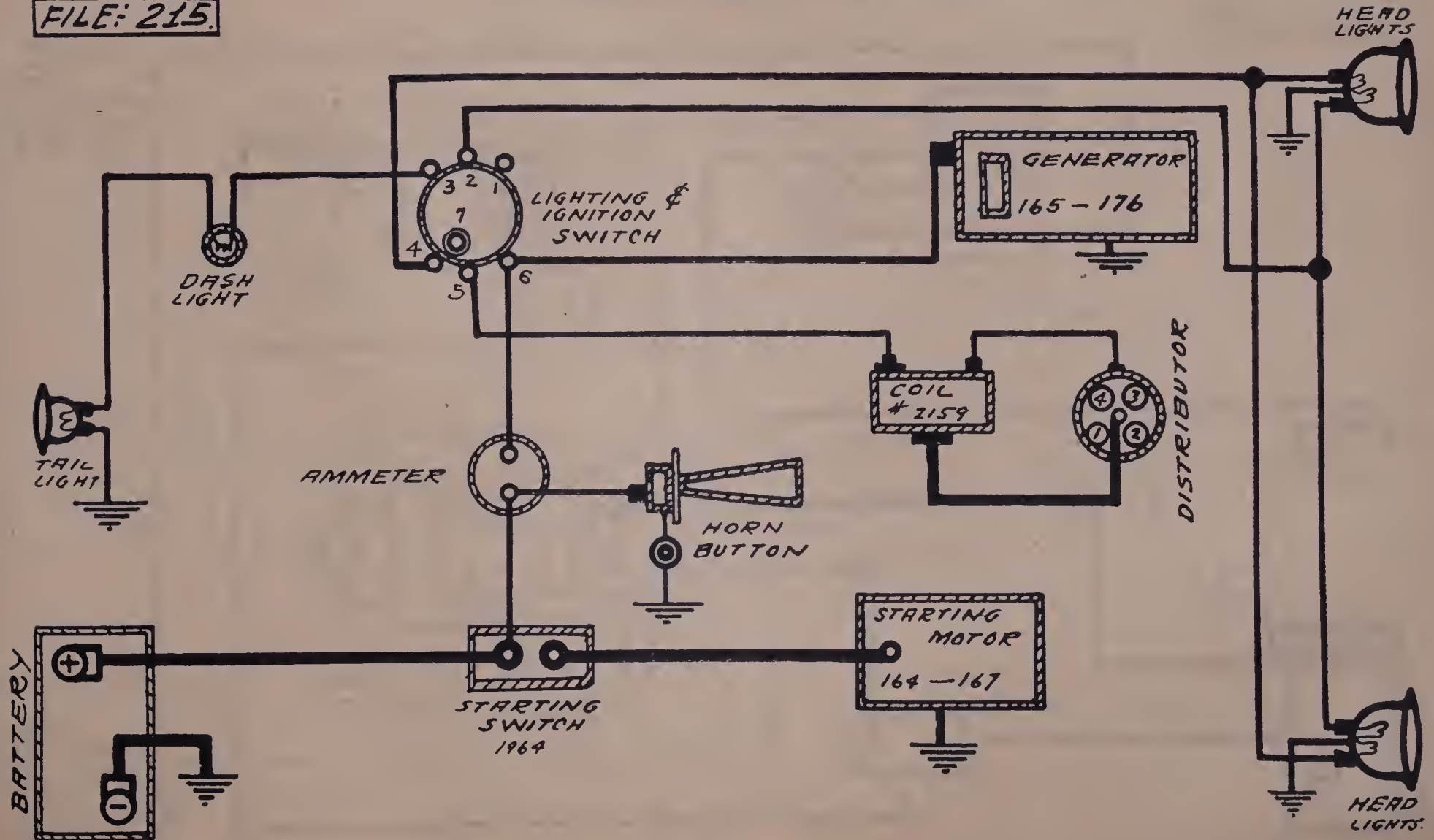
ELKHART

1920

MODEL G.H.K.D.

6-VOLT,- DELCO SYSTEM.

FILE: 215.



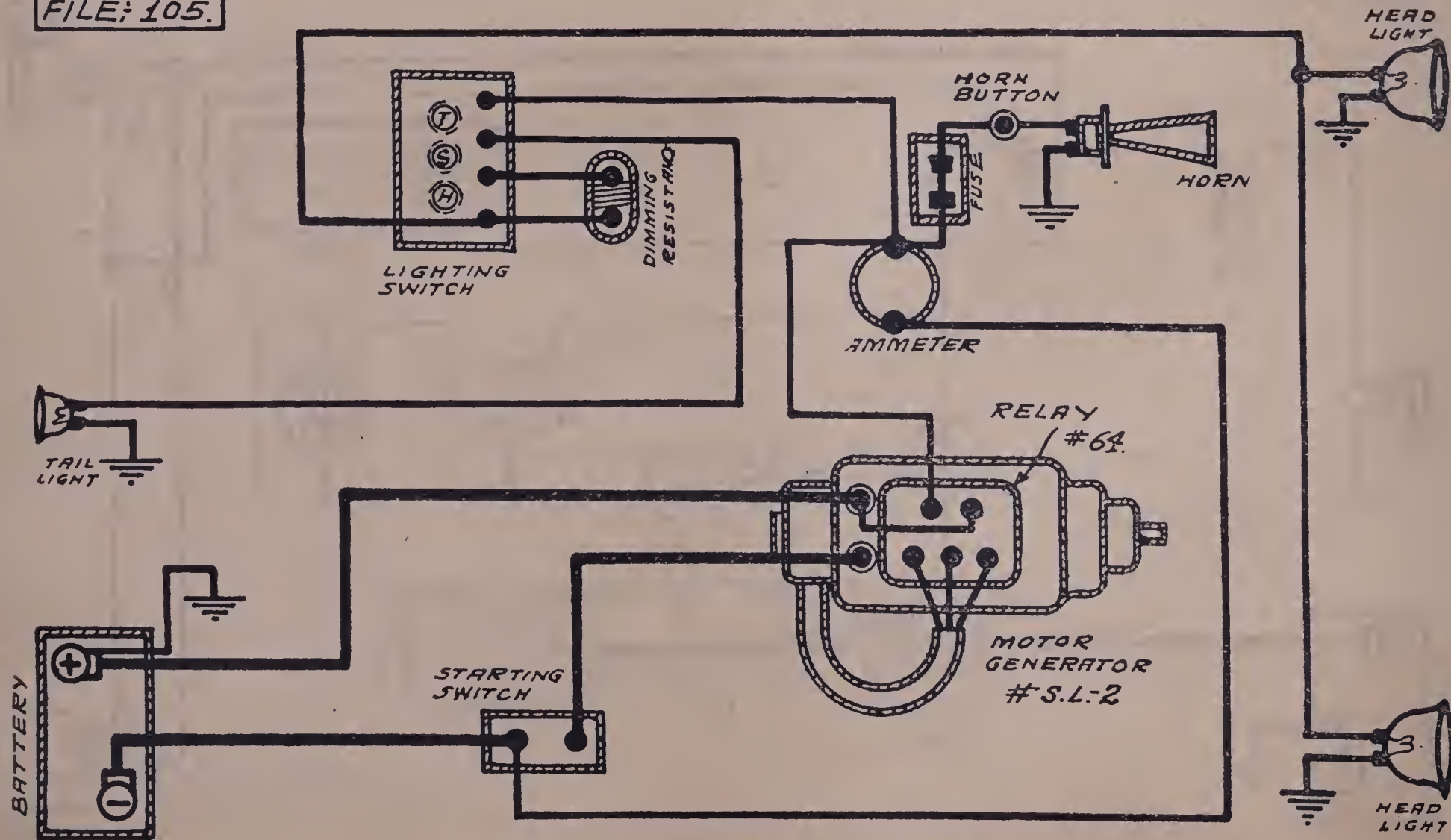
EMPIRE

1914

MODEL-31.

6-VOLT, REMY SYSTEM.

FILE: 105.



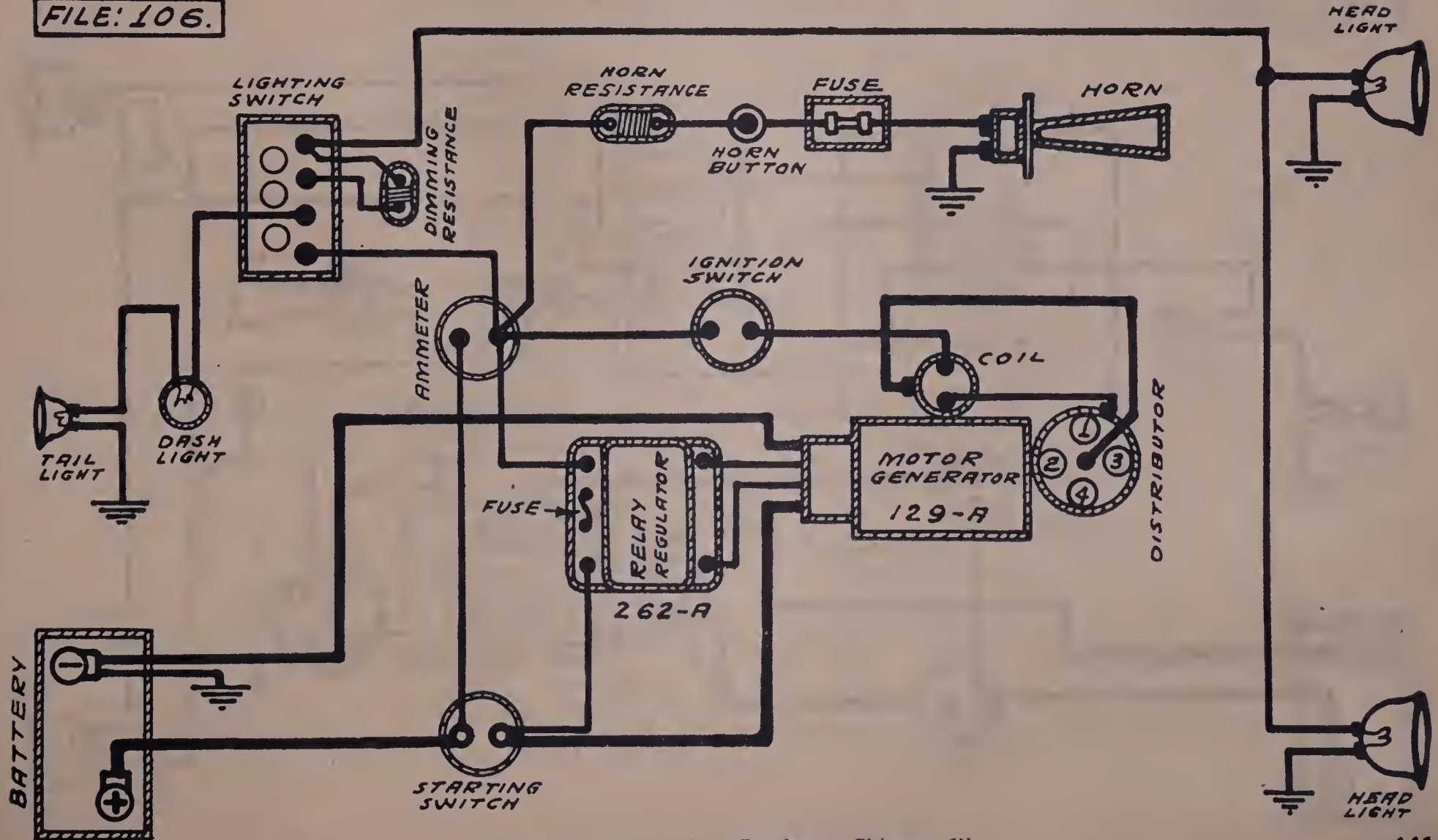
EMPIRE

1915.

MODEL 31,-40.

12-VOLT, REMY SYSTEM.

FILE: 106.



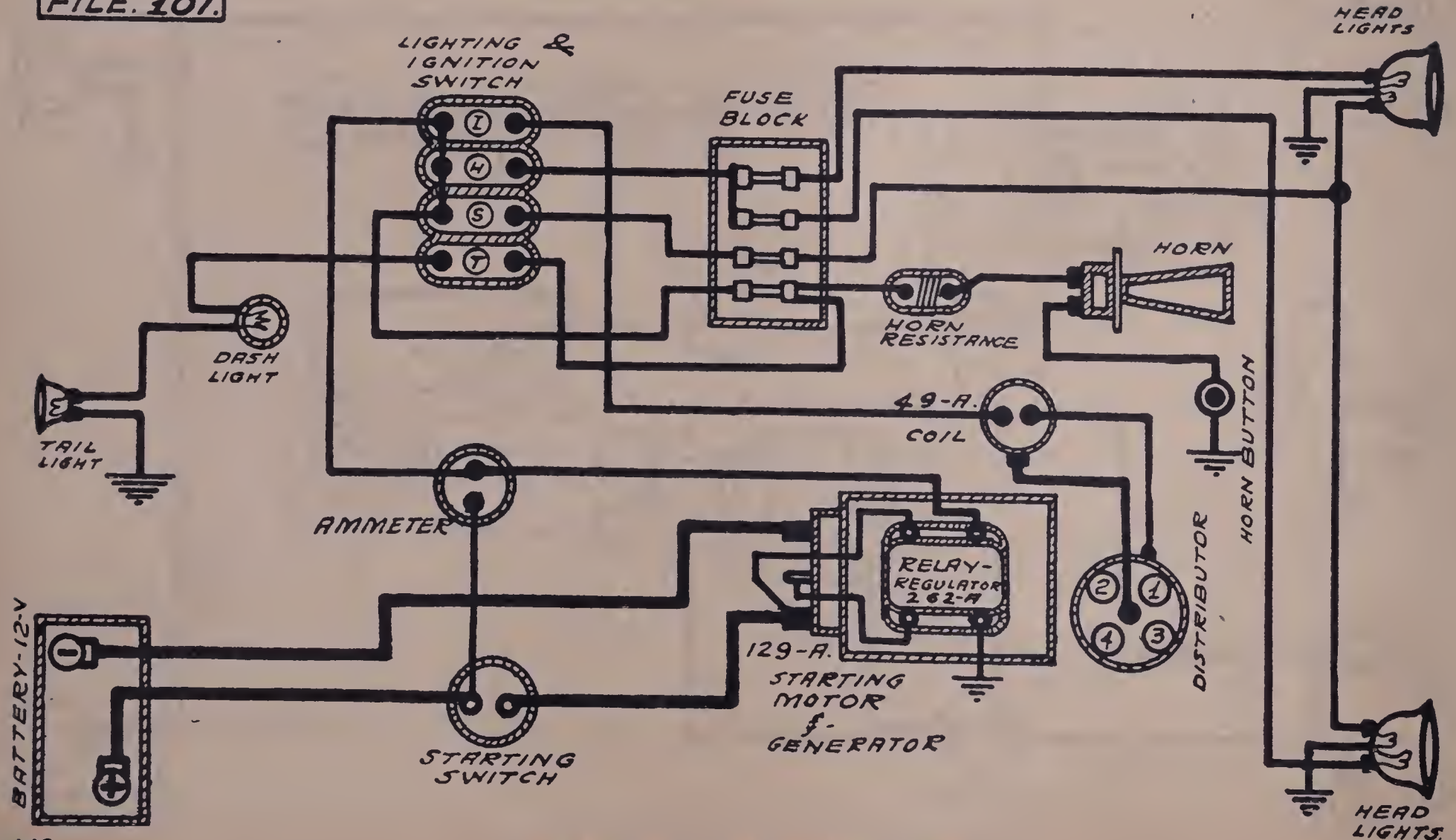
EMPIRE

1915-1916.

MODEL 33.

12-VOLT, - REMY SYSTEM.

FILE: 107.



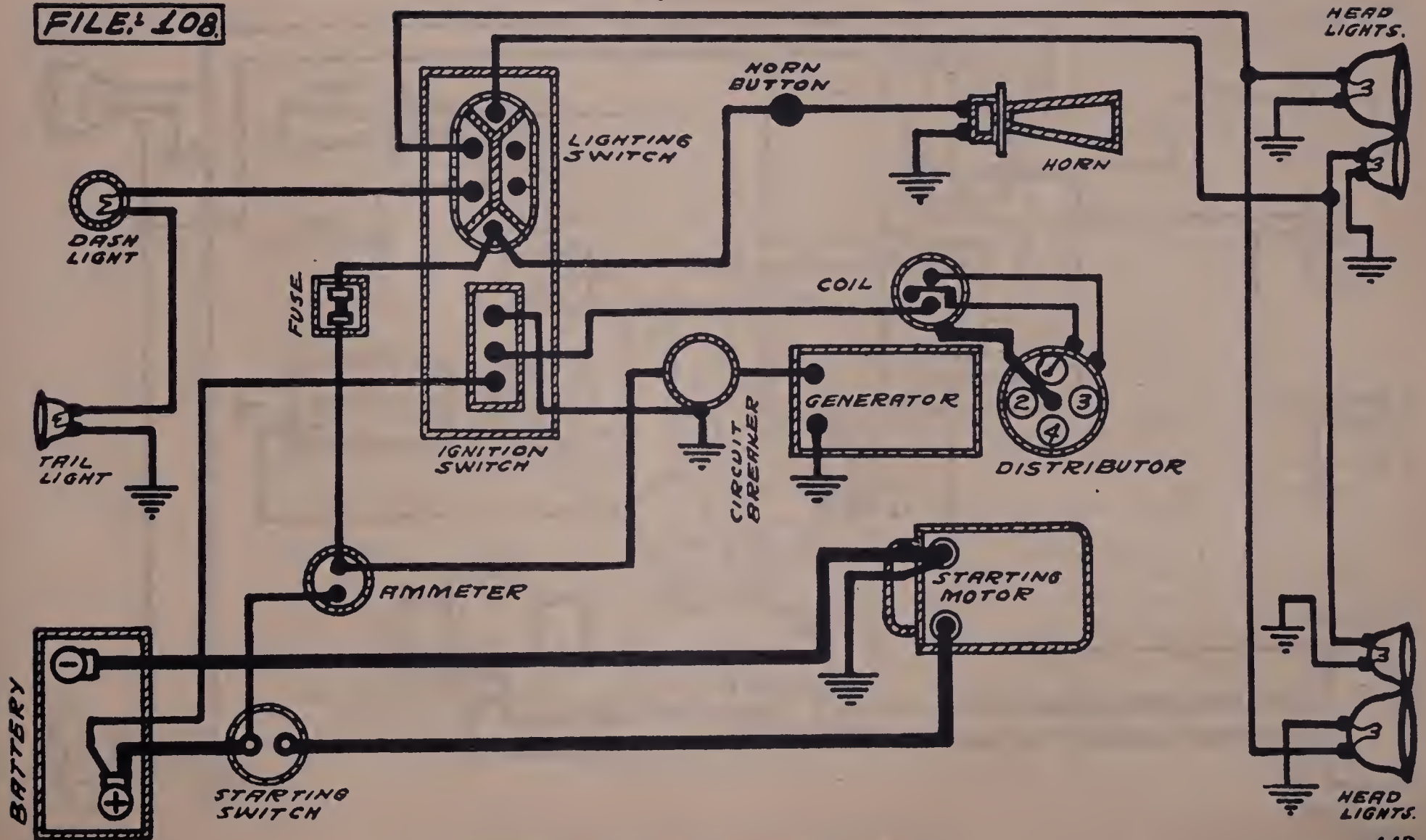
1916.

EMPIRE

MODEL 40

6-VOLT, AUTOLITE SYSTEM.

FILE: 108.



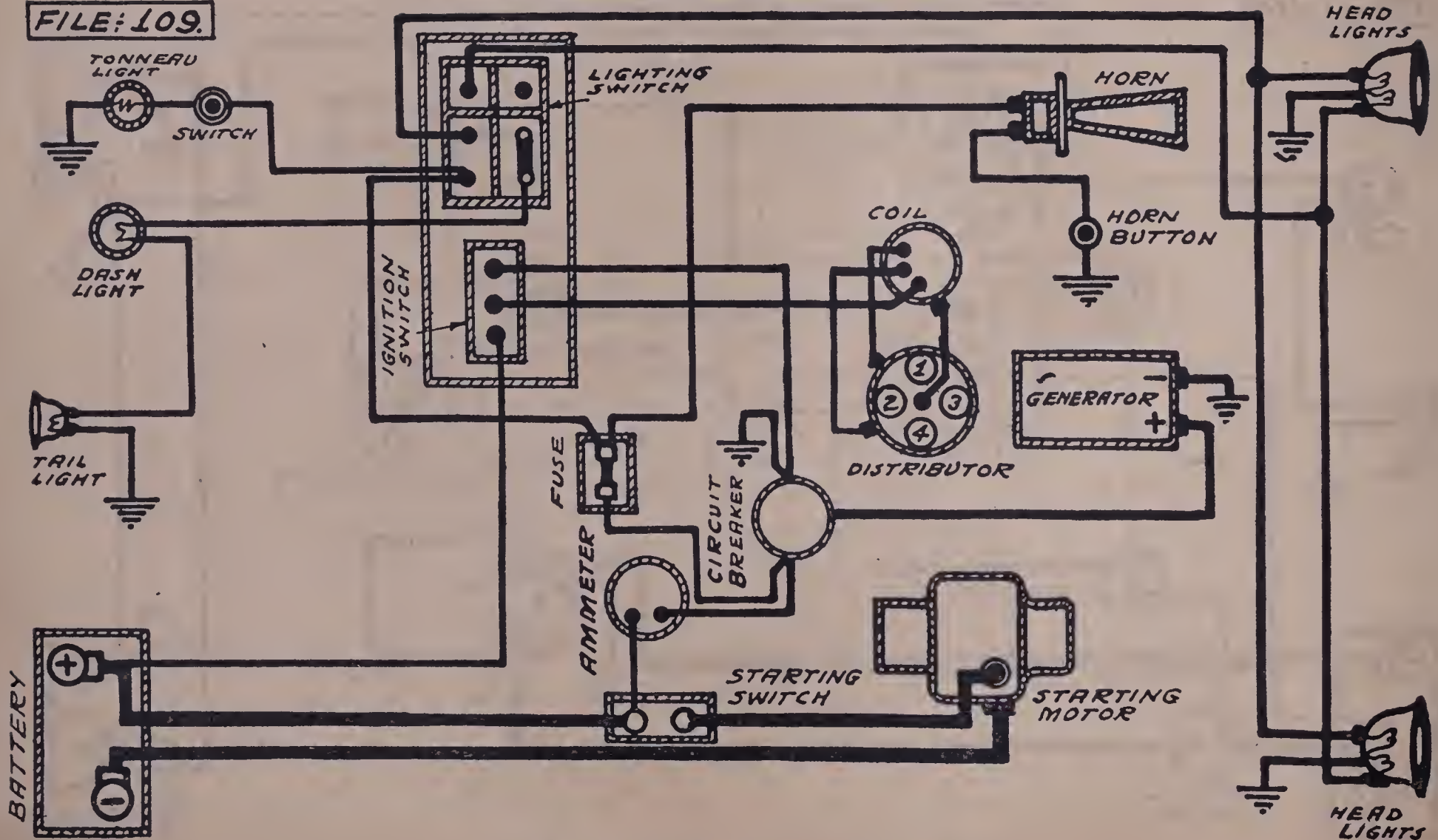
EMPIRE

1916

MODEL 45

6-VOLT, AUTOLITE SYSTEM.

FILE: 109.



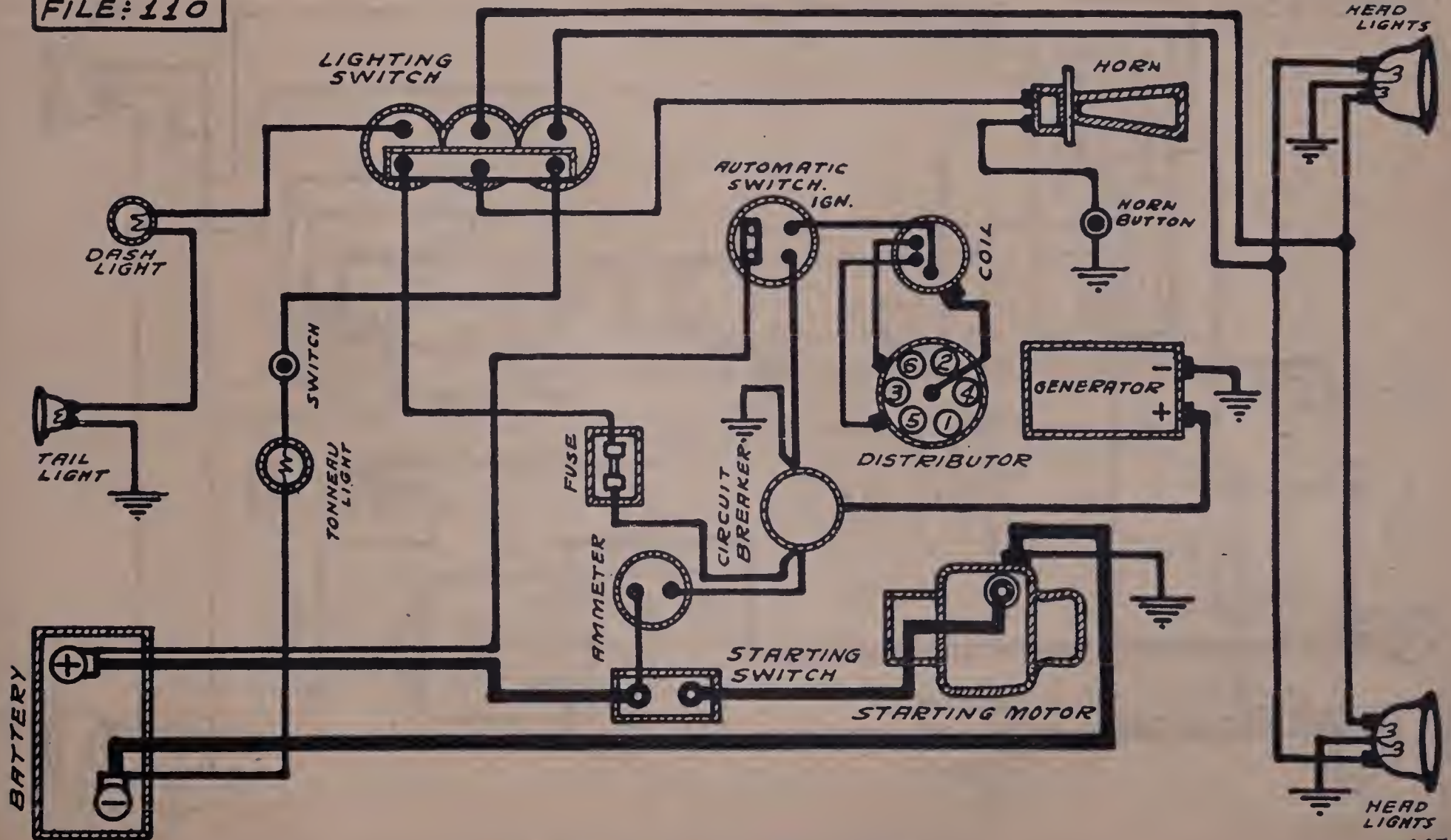
EMPIRE

1917.

MODEL-60.

6-VOLT, AUTOLITE SYSTEM.

FILE: 110



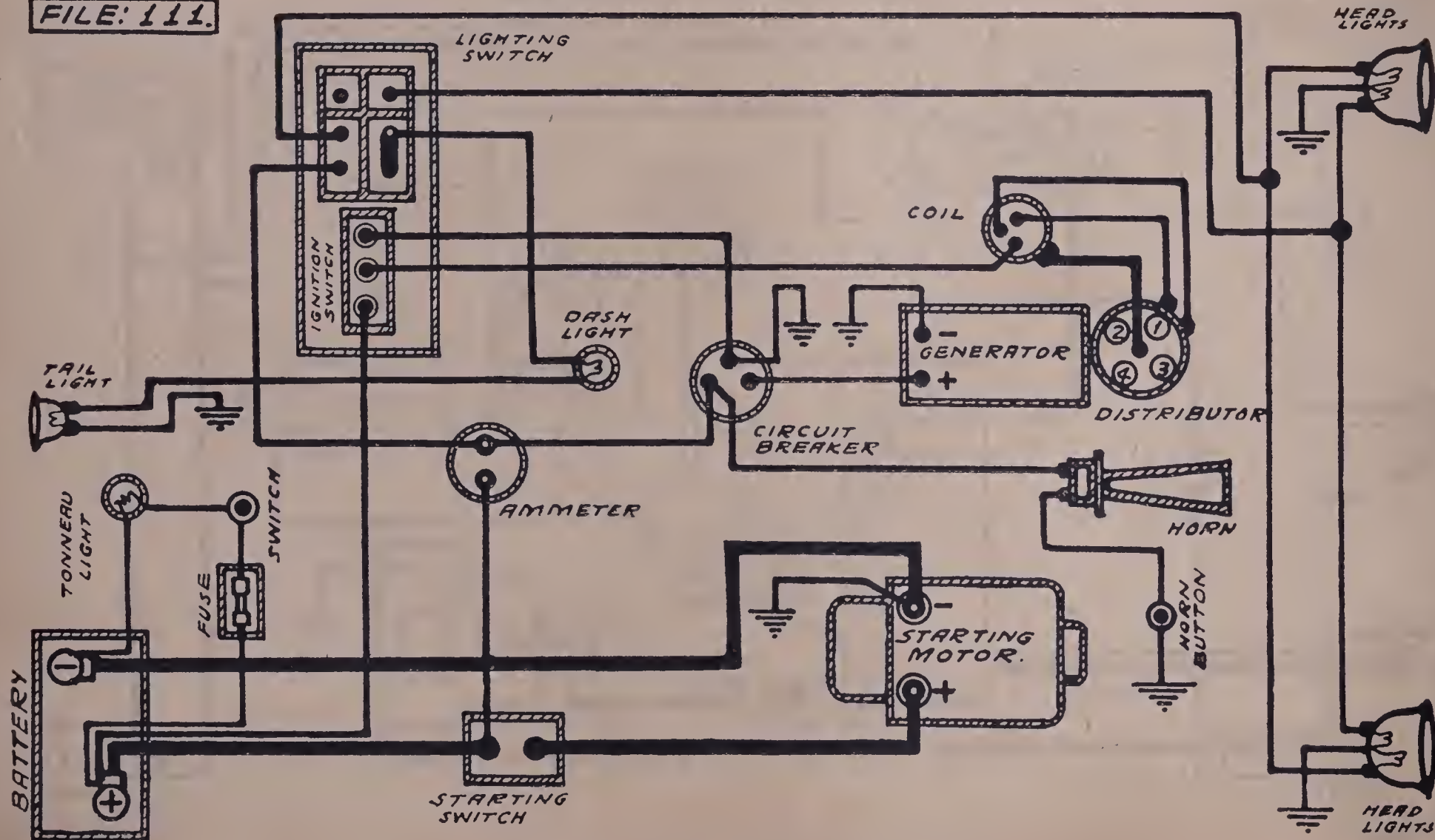
EMPIRE

1917-1918.

MODELS, — 50, 51, 70, 70-A.

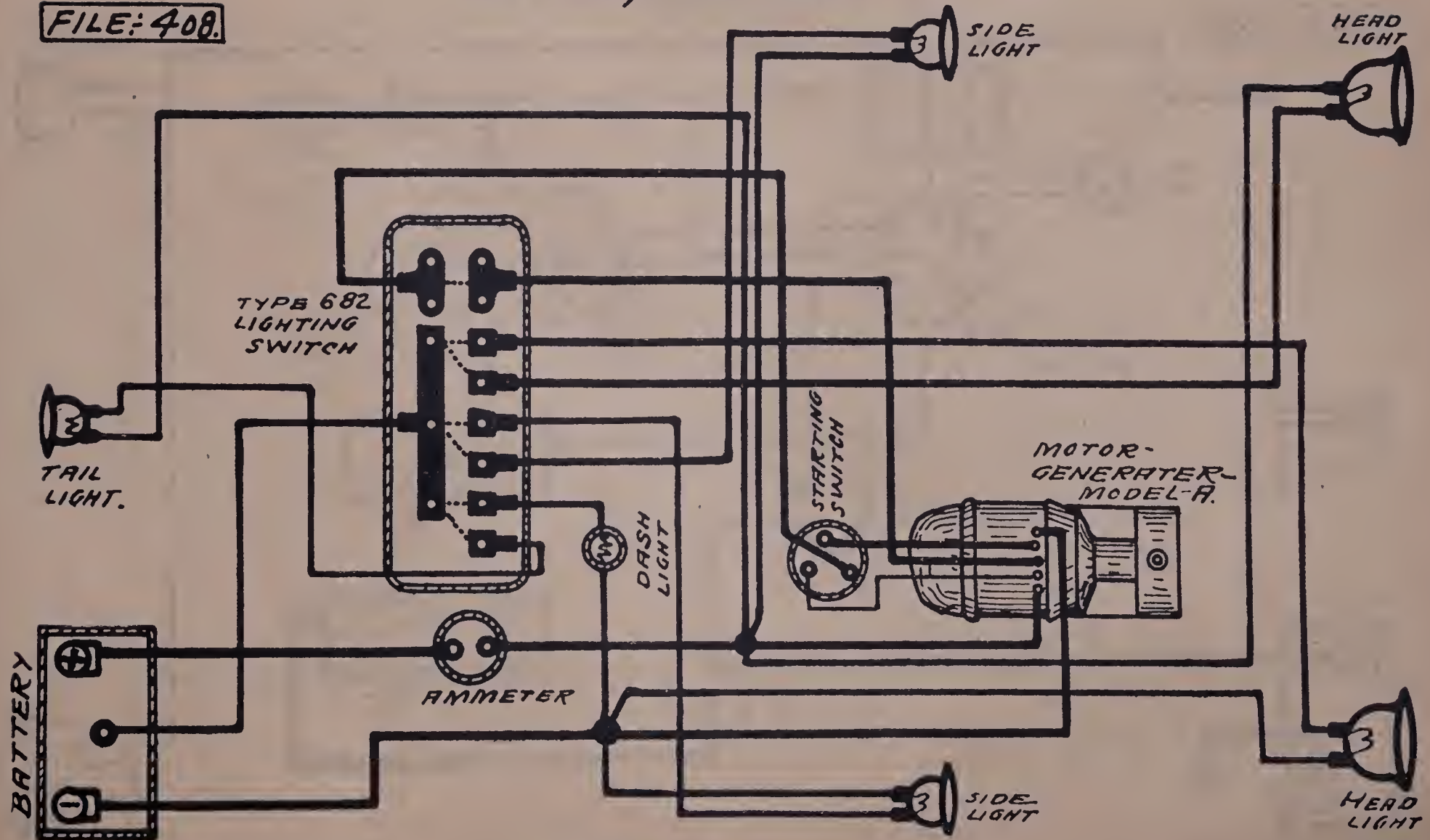
6-VOLT, AUTOLITE SYSTEM.

FILE: 111.



ENGER
1914 MODEL
16-VOLT, NORTH EAST SYSTEM.

FILE: 408.

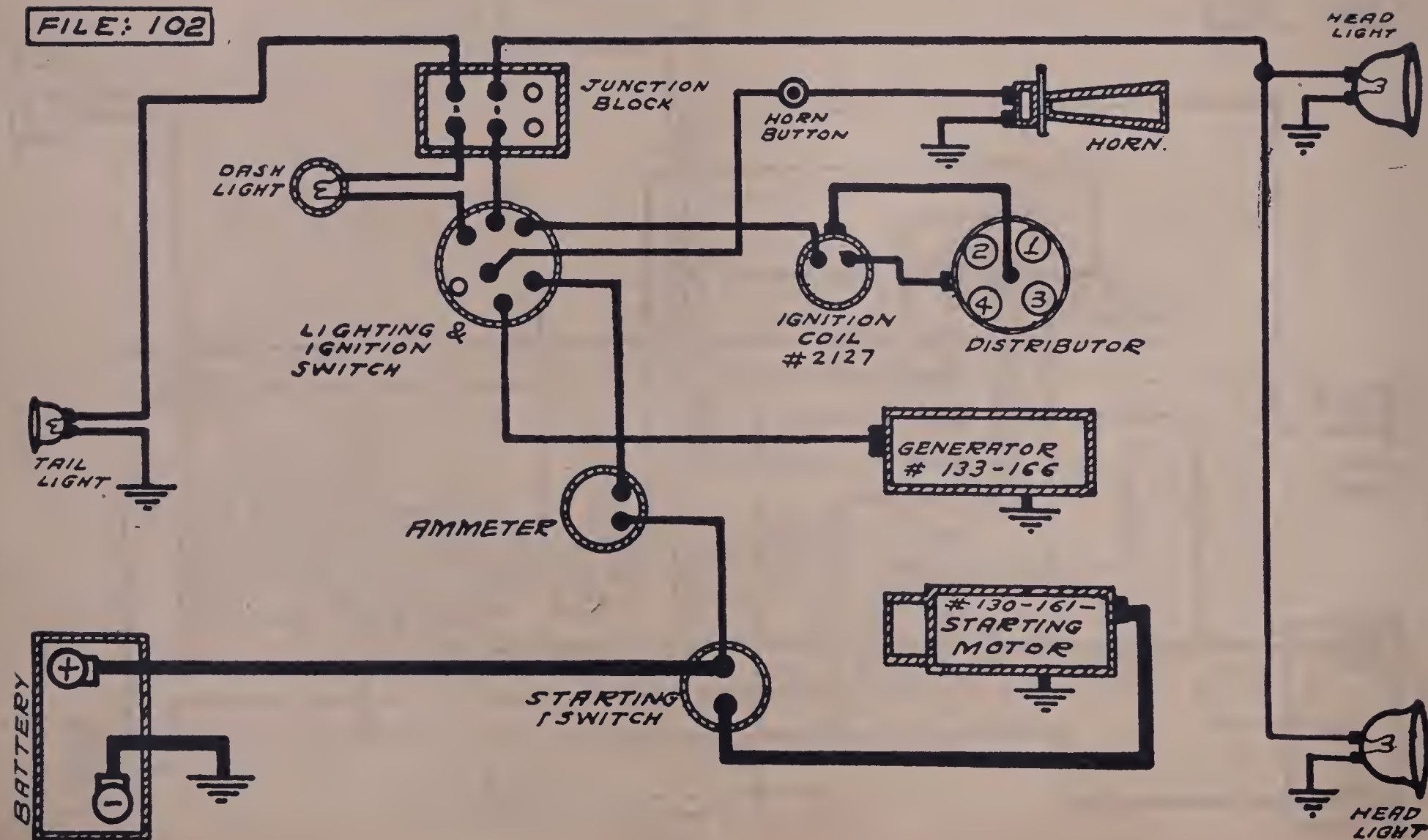


ESSEX

1919

MODEL - A.

6-VOLT, DELCO SYSTEM.

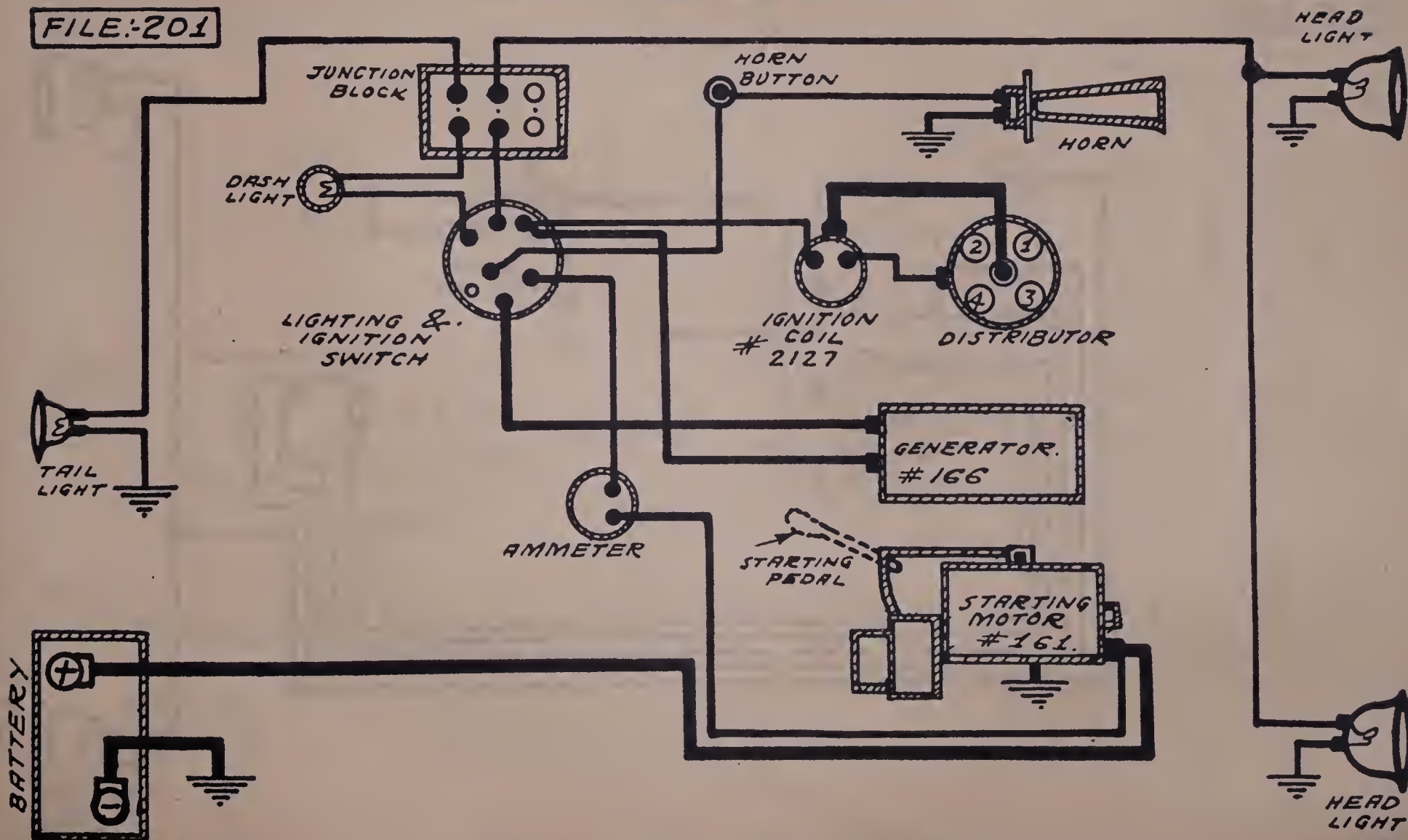


1920

ESSEX

MODEL - A.

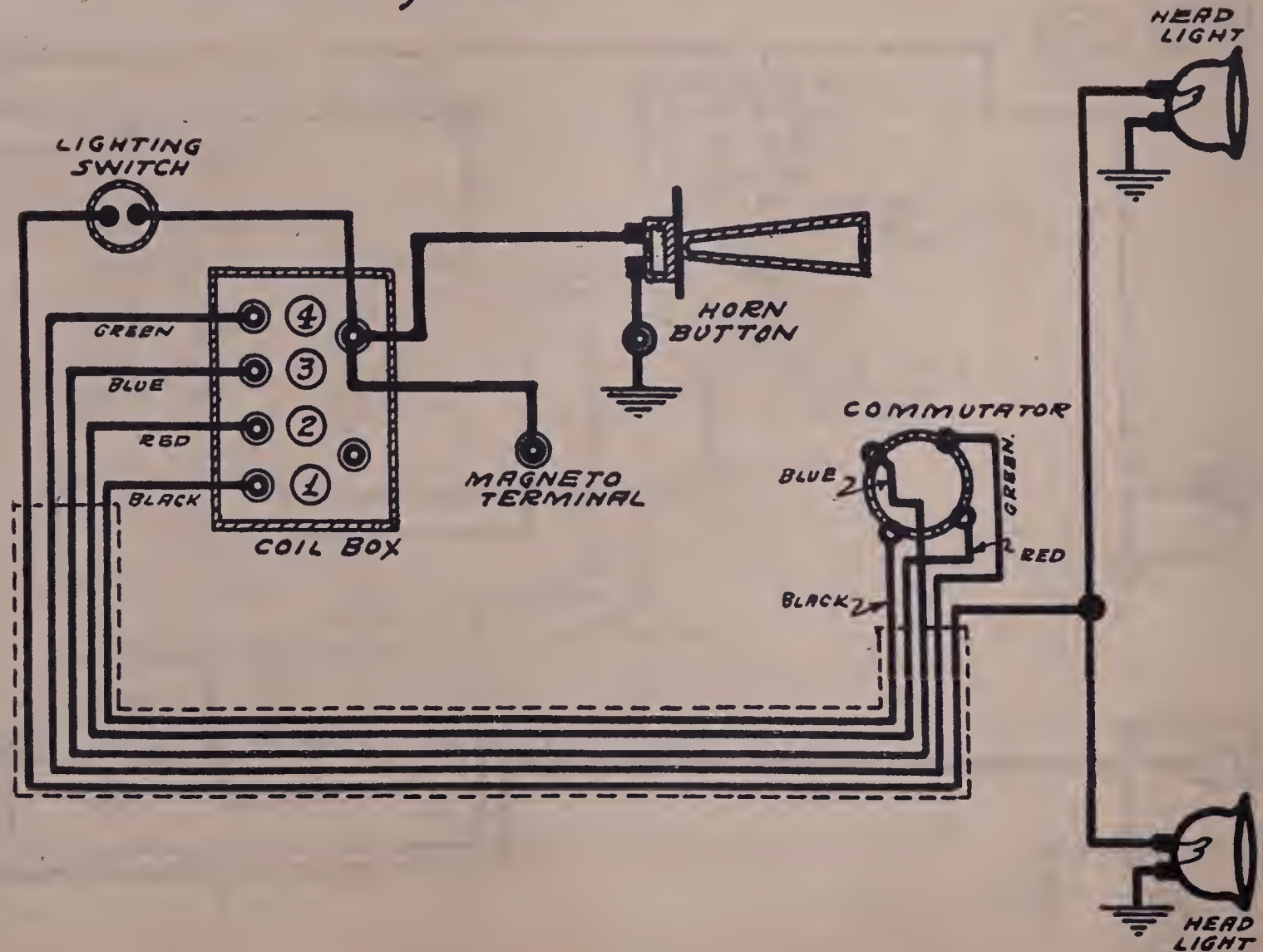
6-VOLT, - DELCO SYSTEM.



FORD

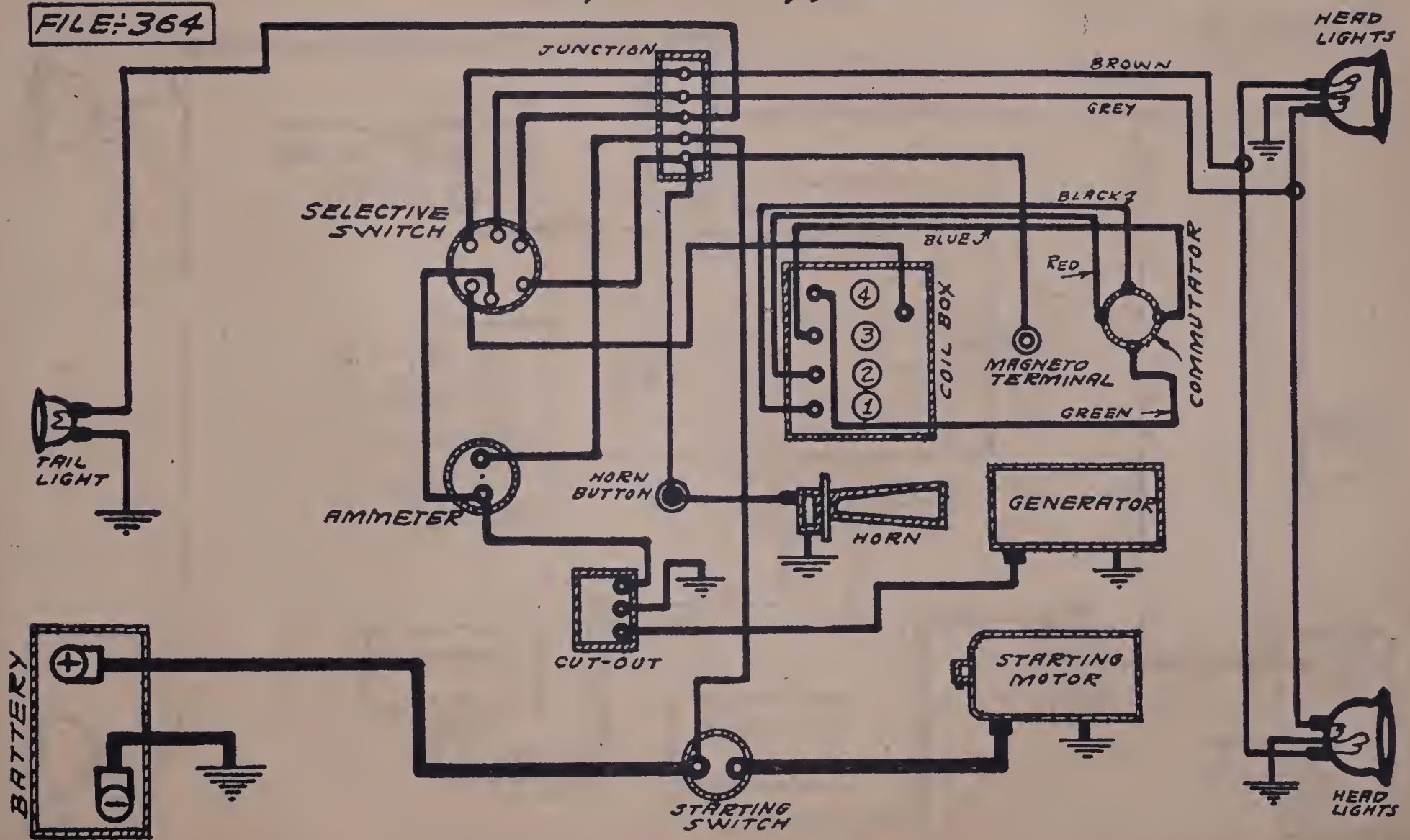
FORD STANDARD SYSTEM. IGNITION & LIGHTING

FILE: 364



FORD

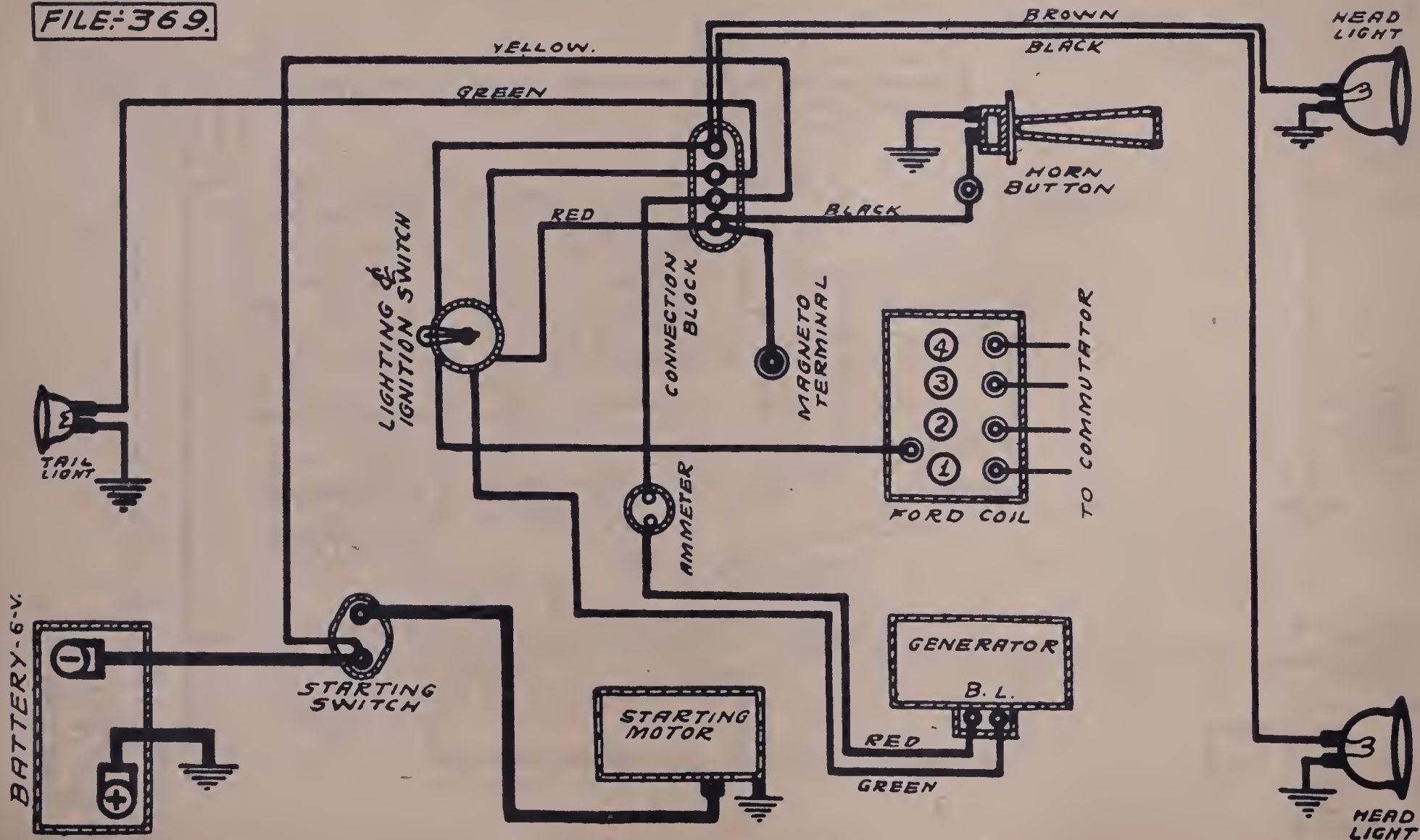
FORD STANDARD SYSTEM. STARTING, LIGHTING, & IGNITION



FORD

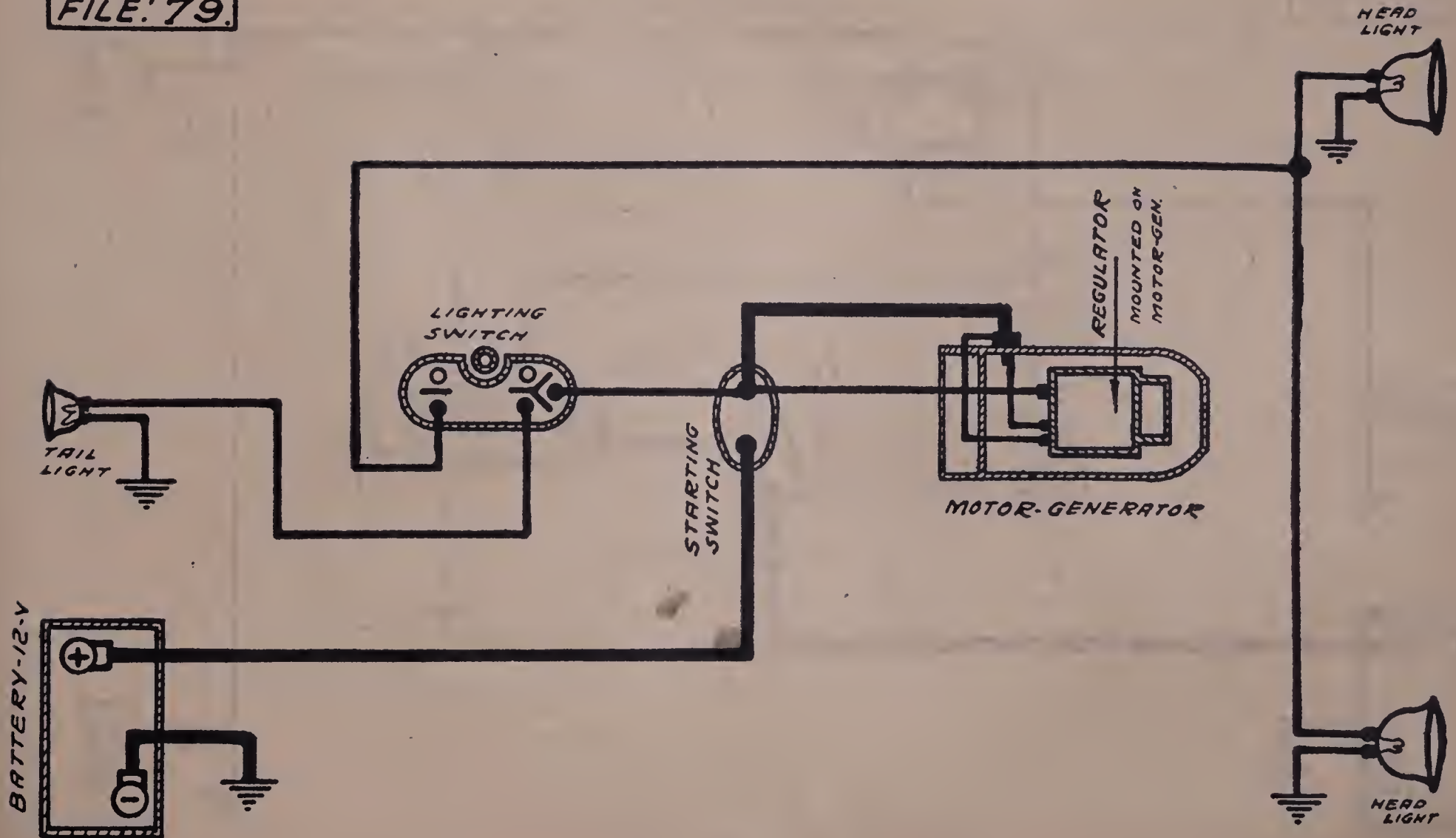
ATWATER-KENT STARTING AND LIGHTING SYSTEM. FOR 1919-1920 CARS

FILE: 369.



FORD
12-VOLT, DISCO SINGLE-UNIT SYSTEM.
EARLY MODELS.

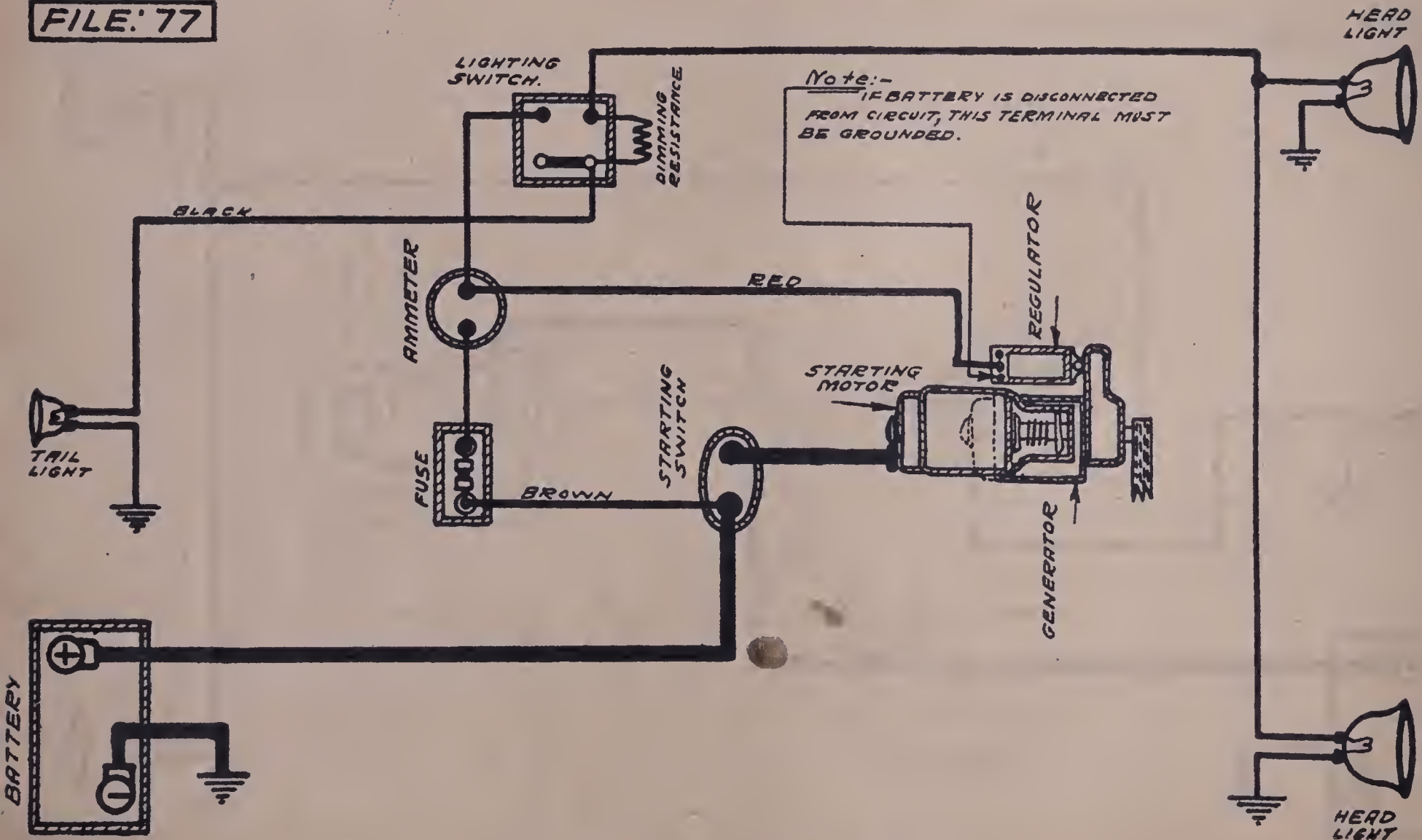
FILE: 79.



FORD

6-VOLT,- DISCO TWO-UNIT SYSTEM

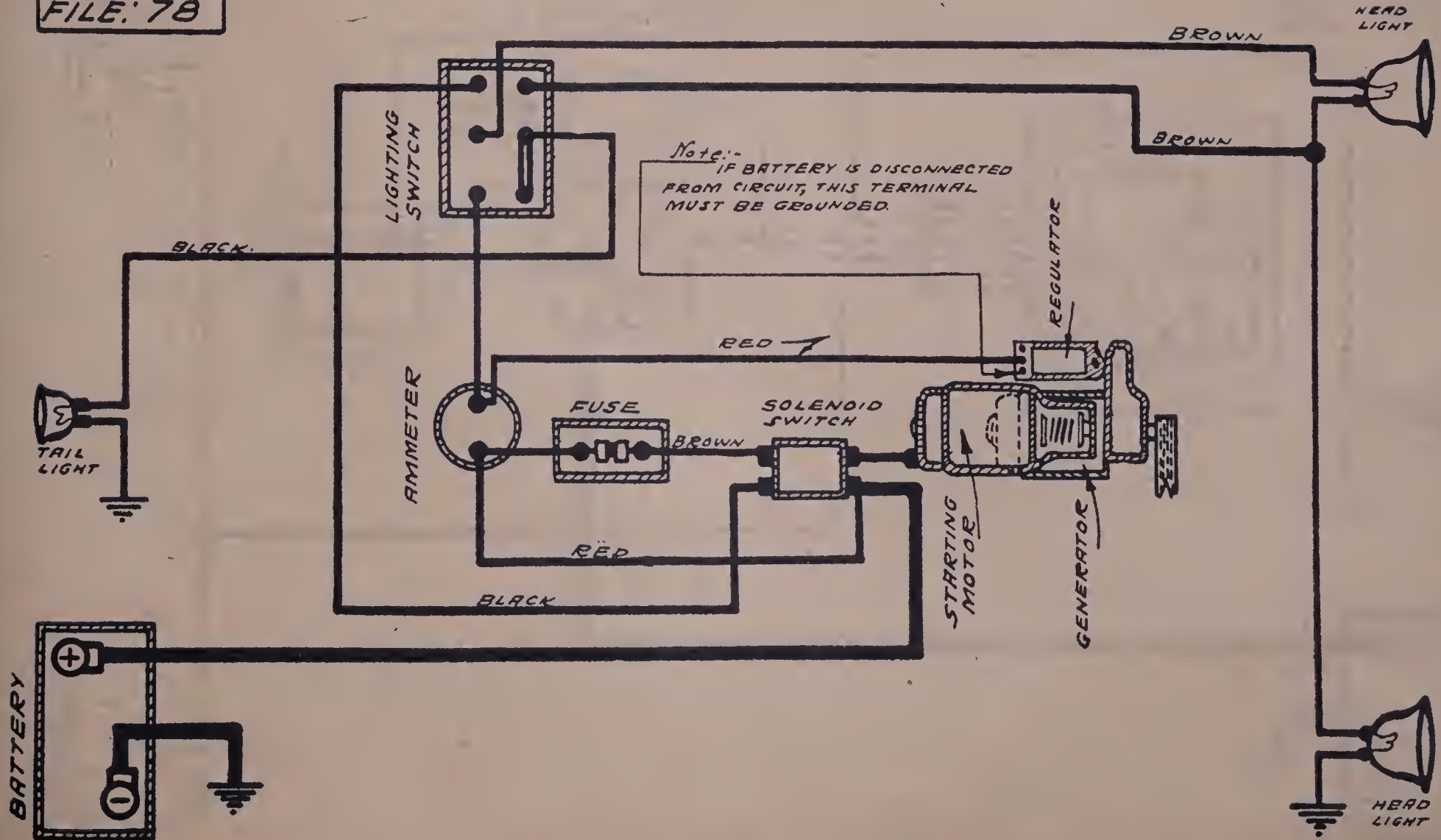
FILE: 77



FORD

6-VOLT, DISCO TWO-UNIT SYSTEM. WITH SOLENOID SWITCH

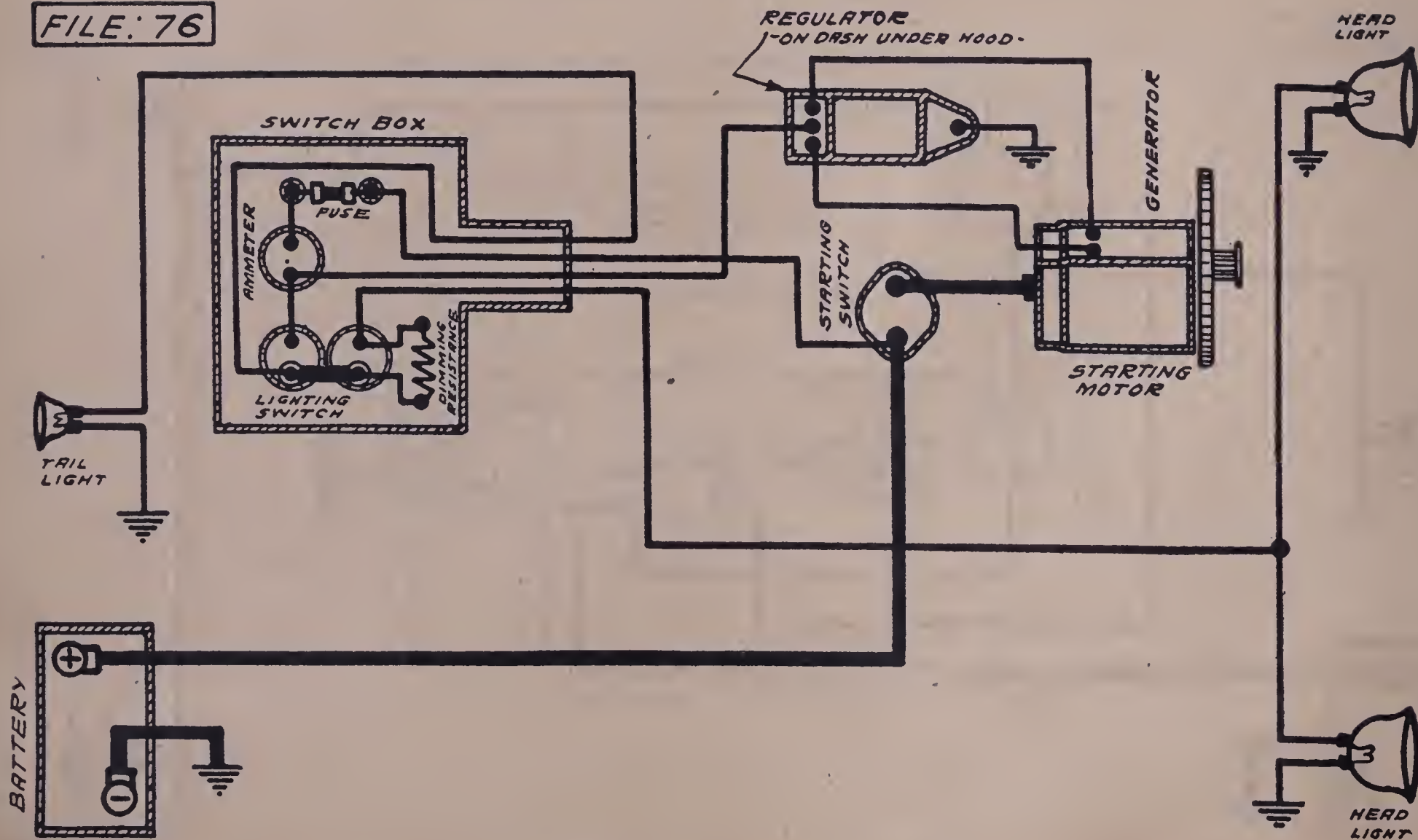
FILE: 78



FORD

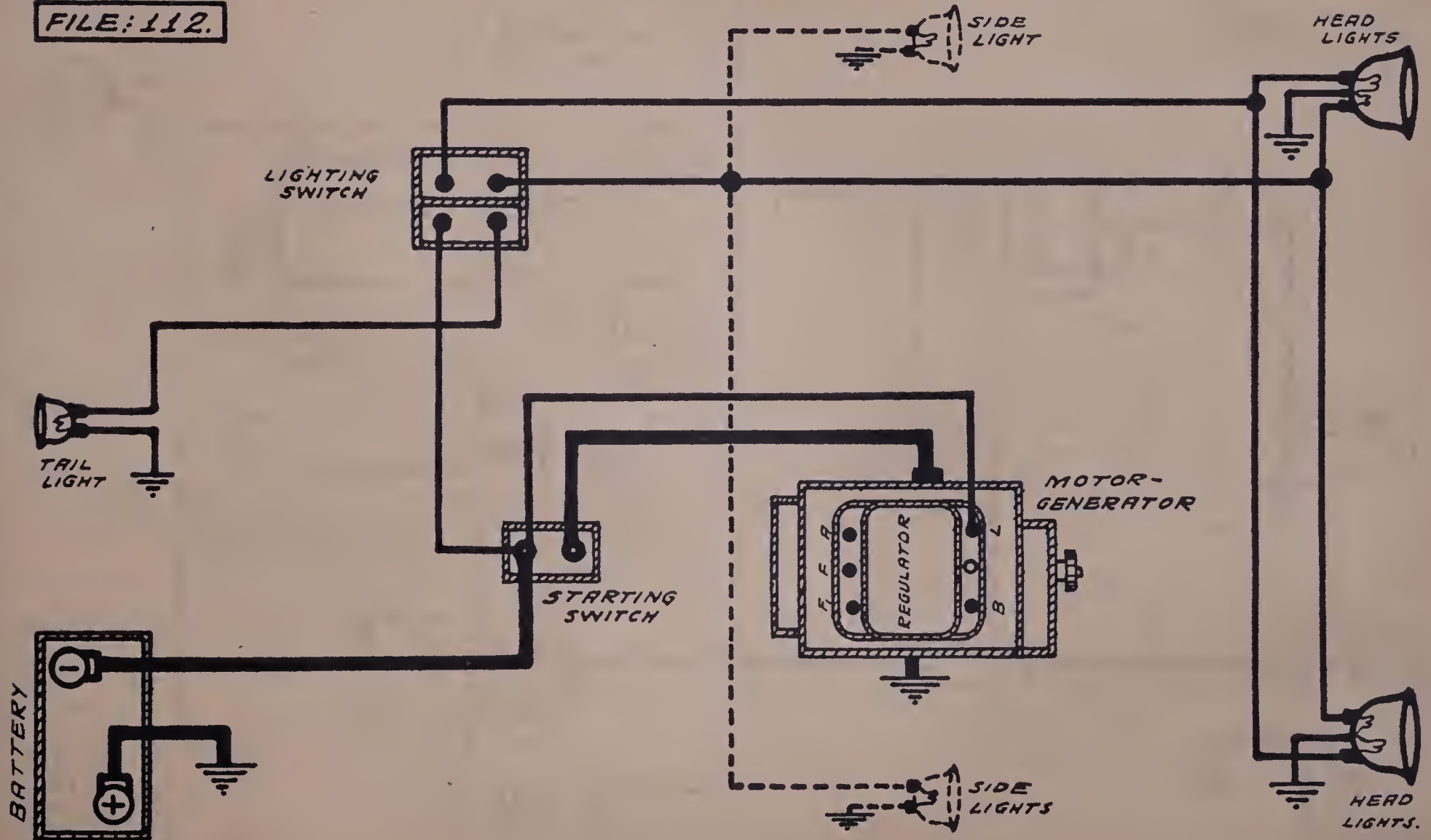
6-VOLT, -DISCO TWO-UNIT, MODEL X-SYSTEM.

FILE: 76



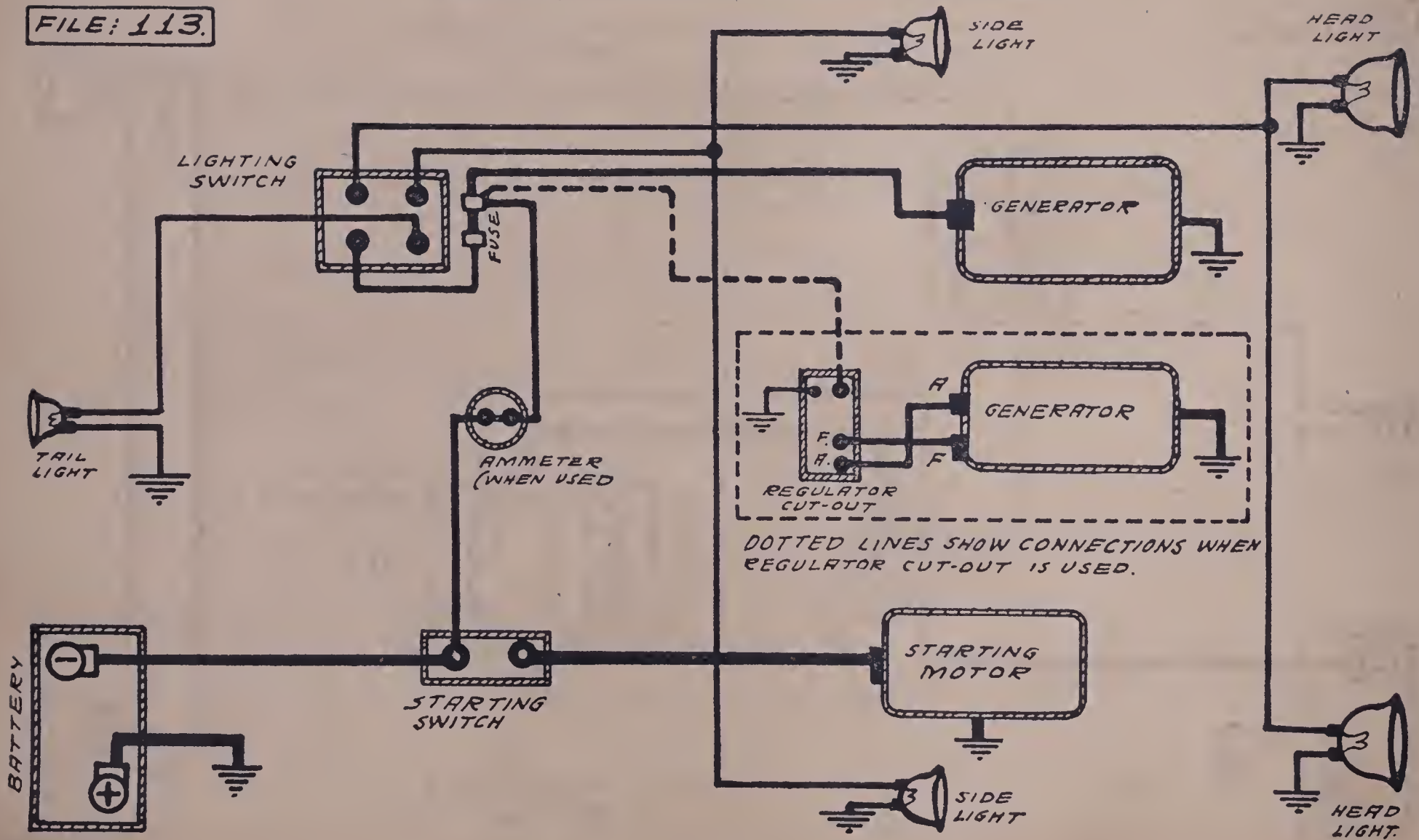
FORD SINGLE UNIT 6-VOLT, - GRAY & DAVIS SYSTEM.

FILE: 112.



FORD. DOUBLE UNIT 6-VOLT, - GRAY & DAVIS SYSTEM.

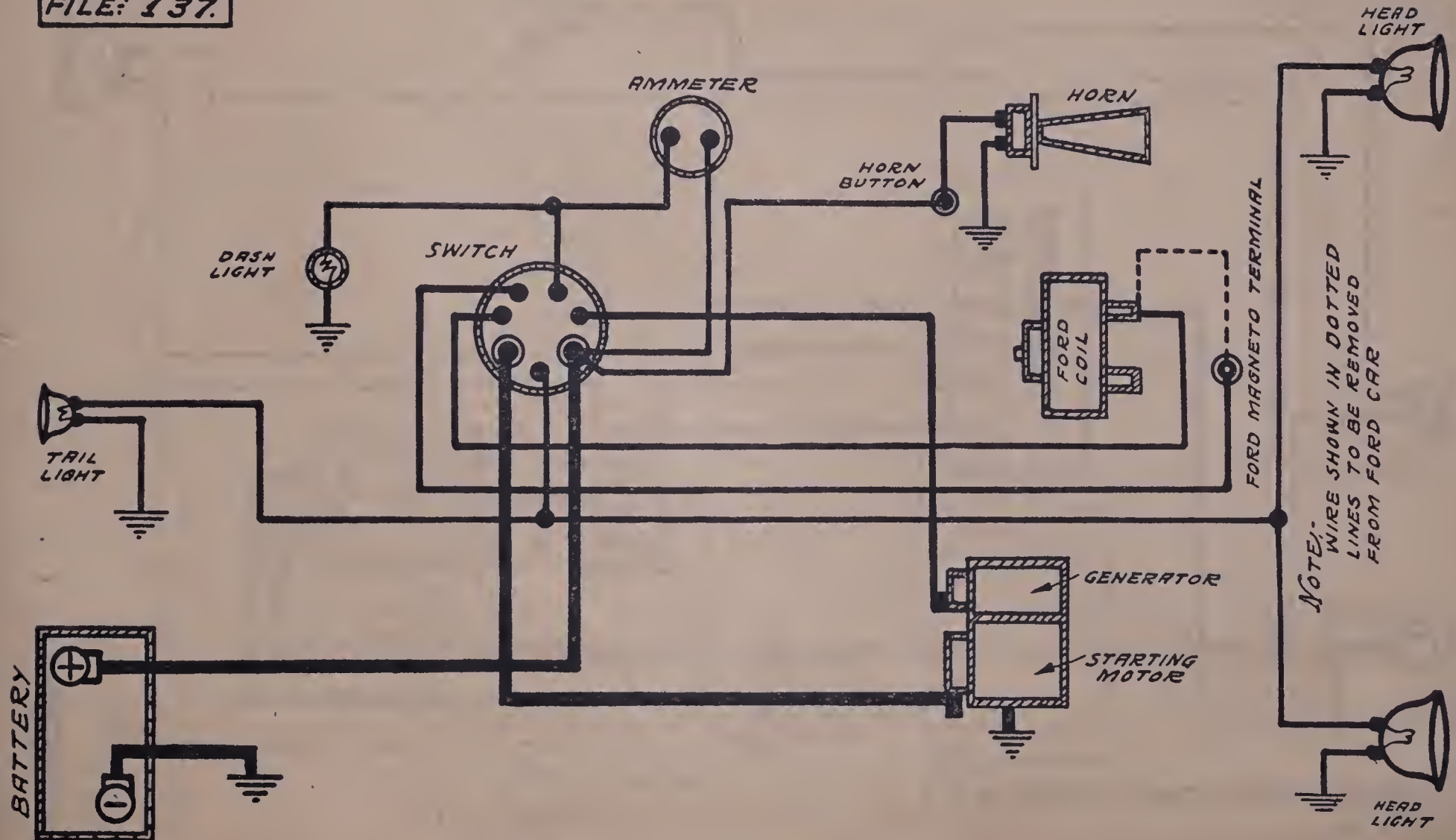
FILE: 113.



FORD

6-VOLT, HEINZE-SPRINGFIELD SYSTEM

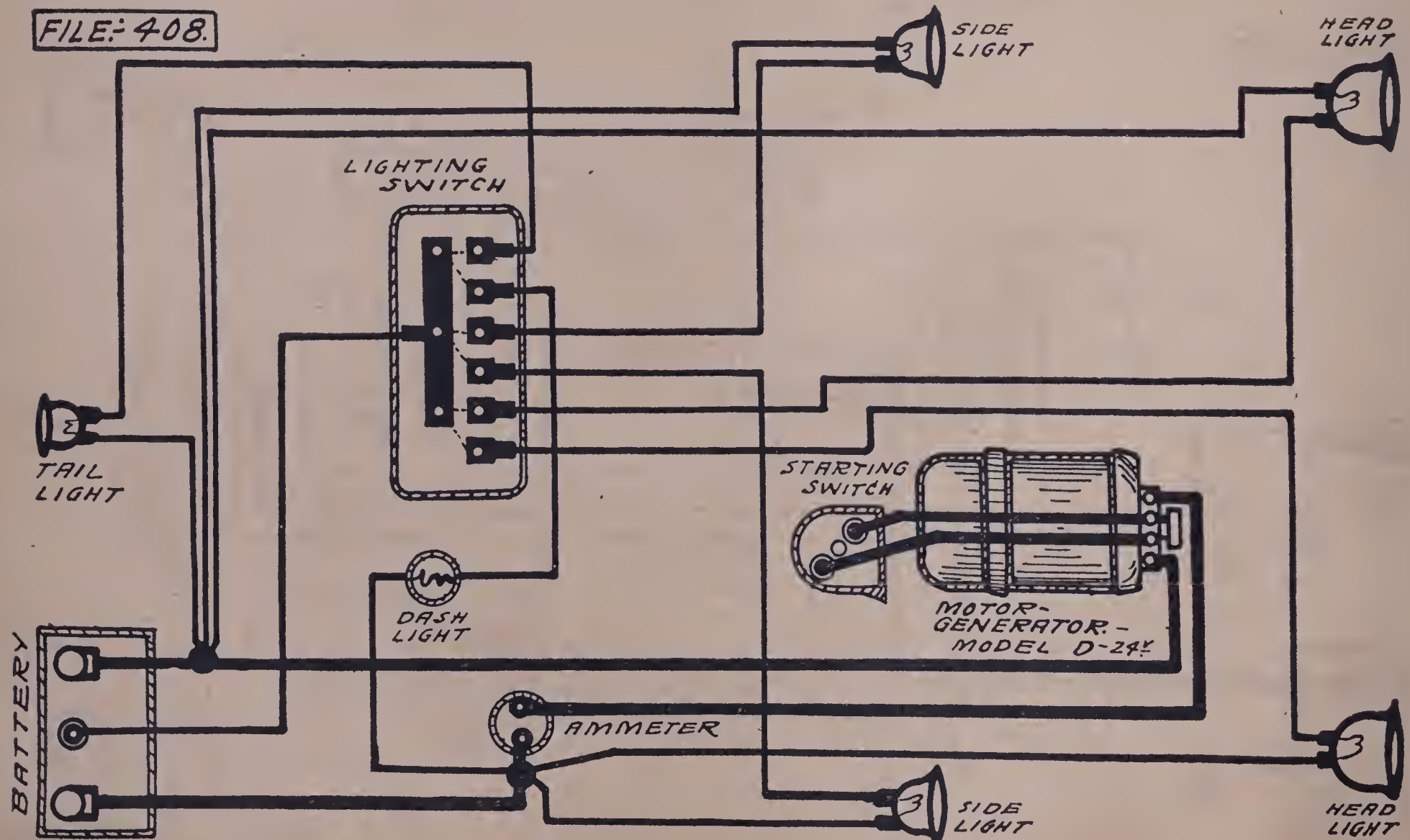
FILE: 137.



FORD

24-VOLT, NORTH EAST SYSTEM.

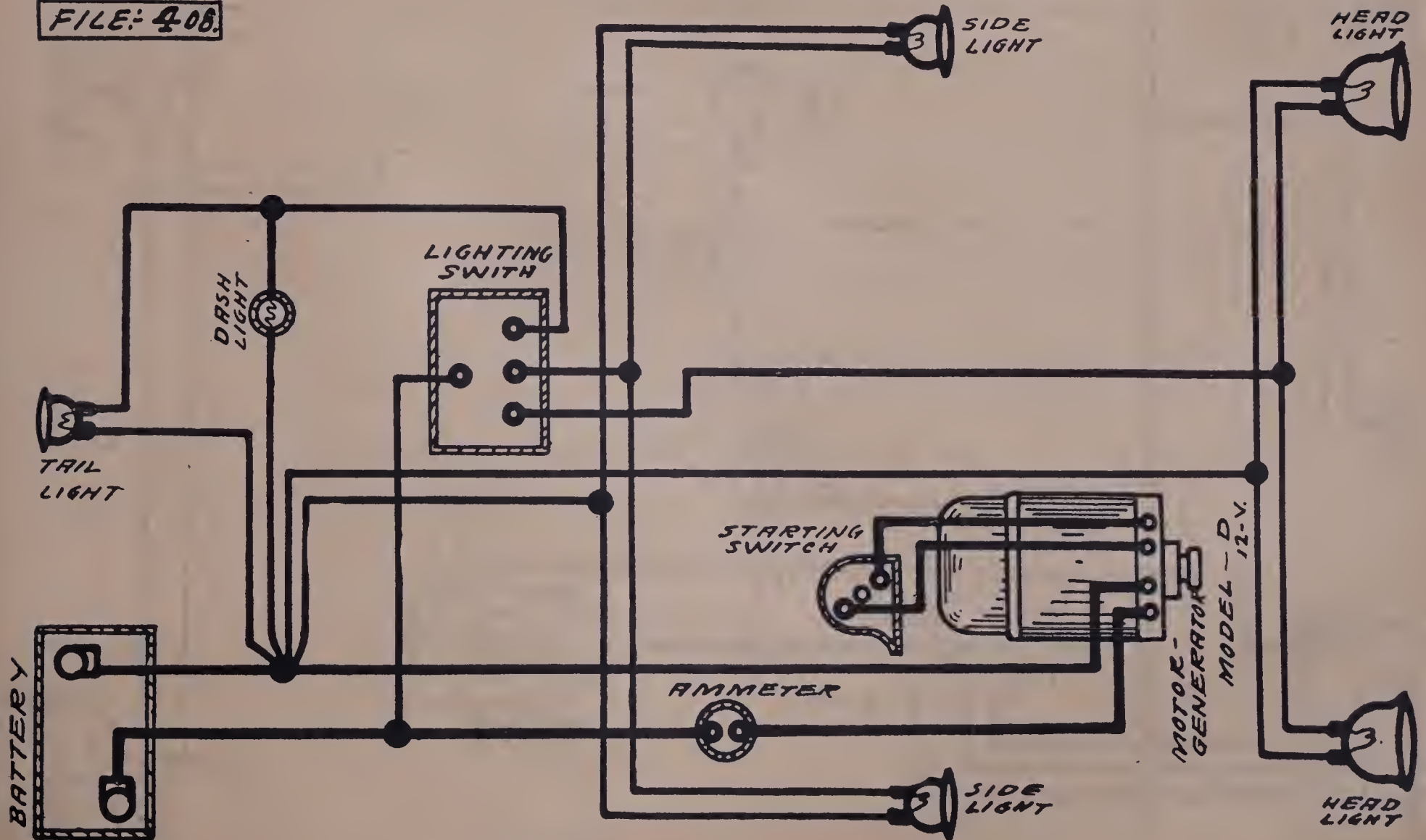
FILE: 408.



FORD.

12-VOLT, NORTH EAST SYSTEM.

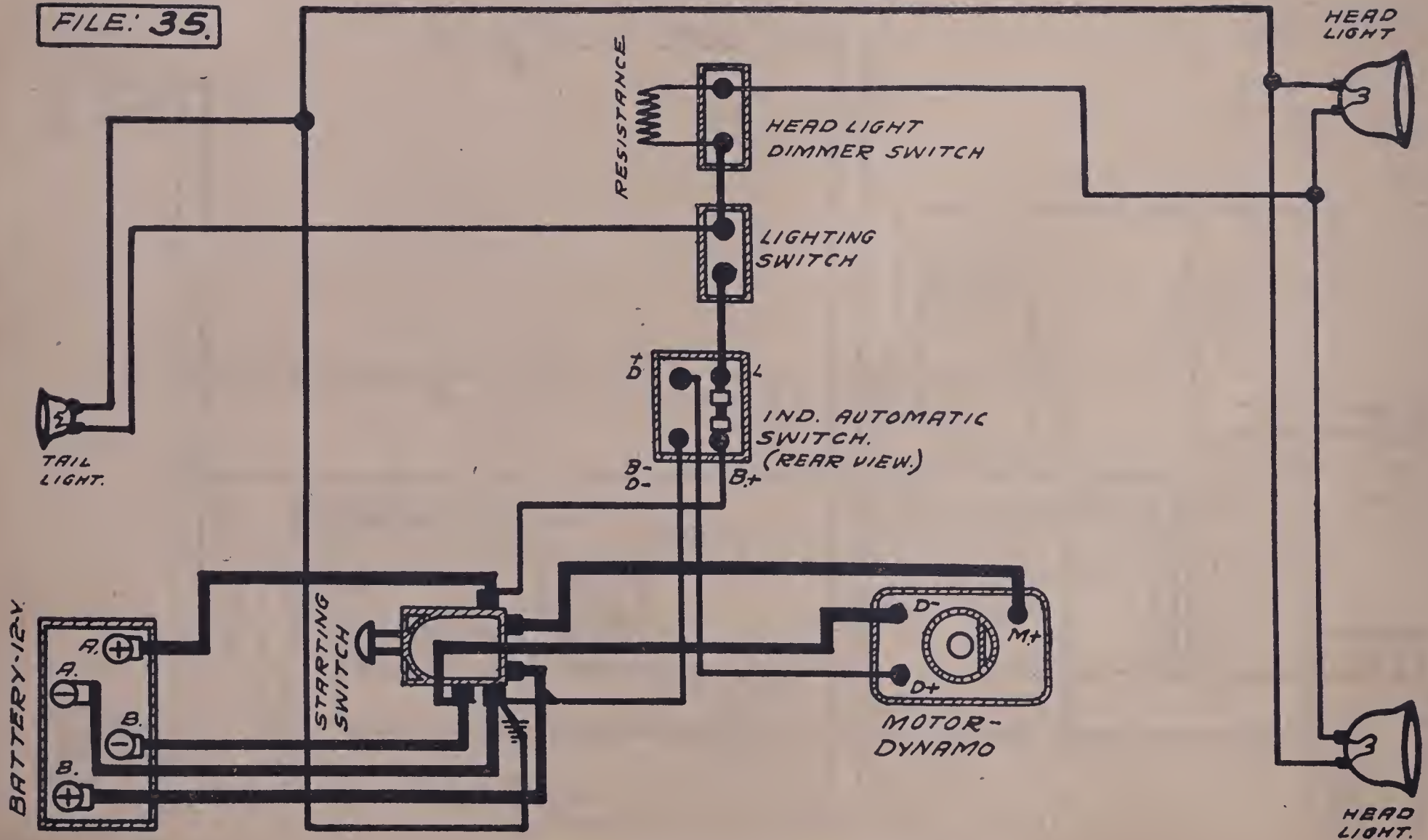
FILE: 406.



FORD

12-VOLT, STARTING & LIGHTING SYSTEM. SPLIT DORF SYSTEM.

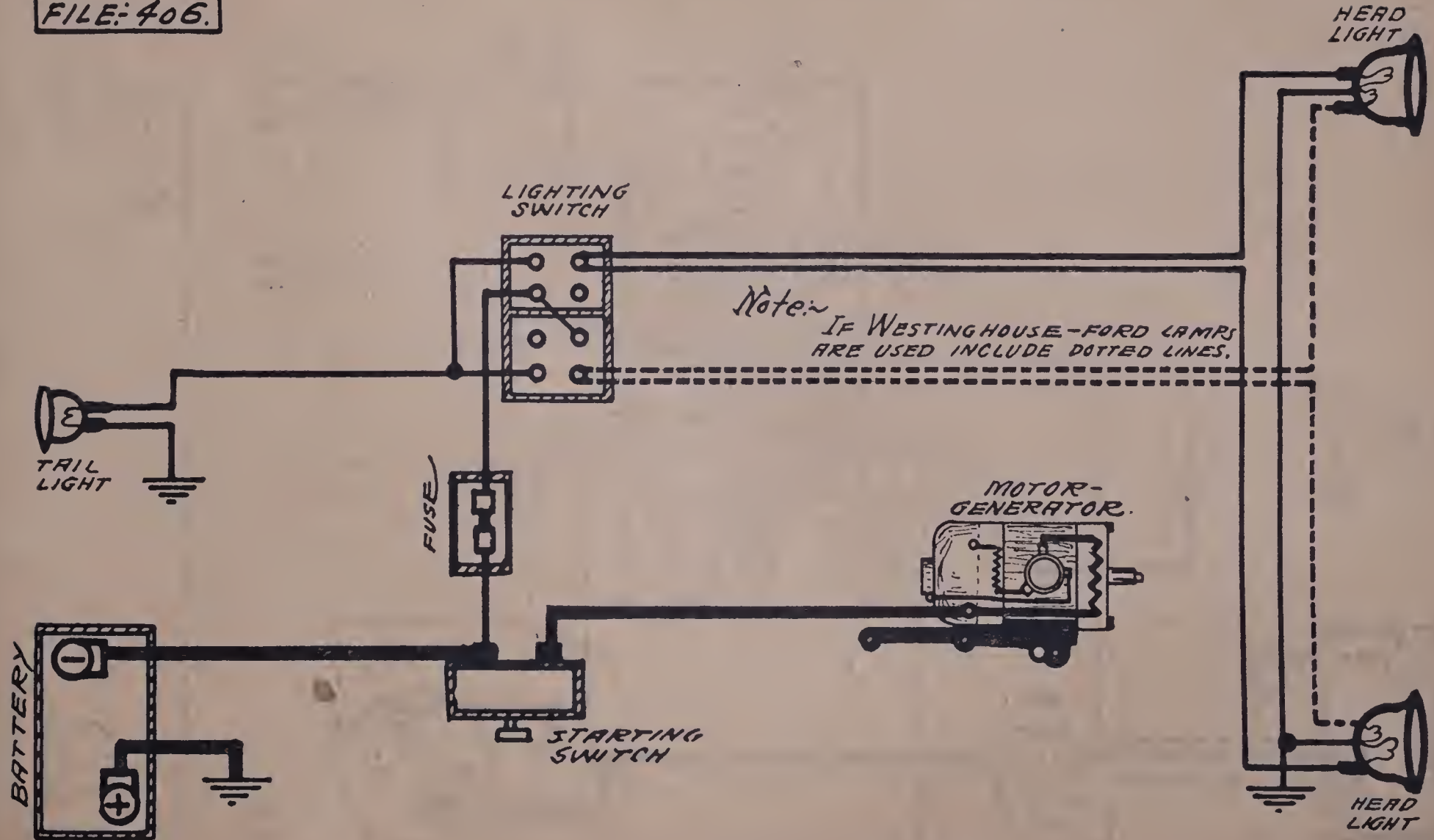
FILE: 35.



FORD

6-VOLT, WESTINGHOUSE SYSTEM.

FILE: 406.

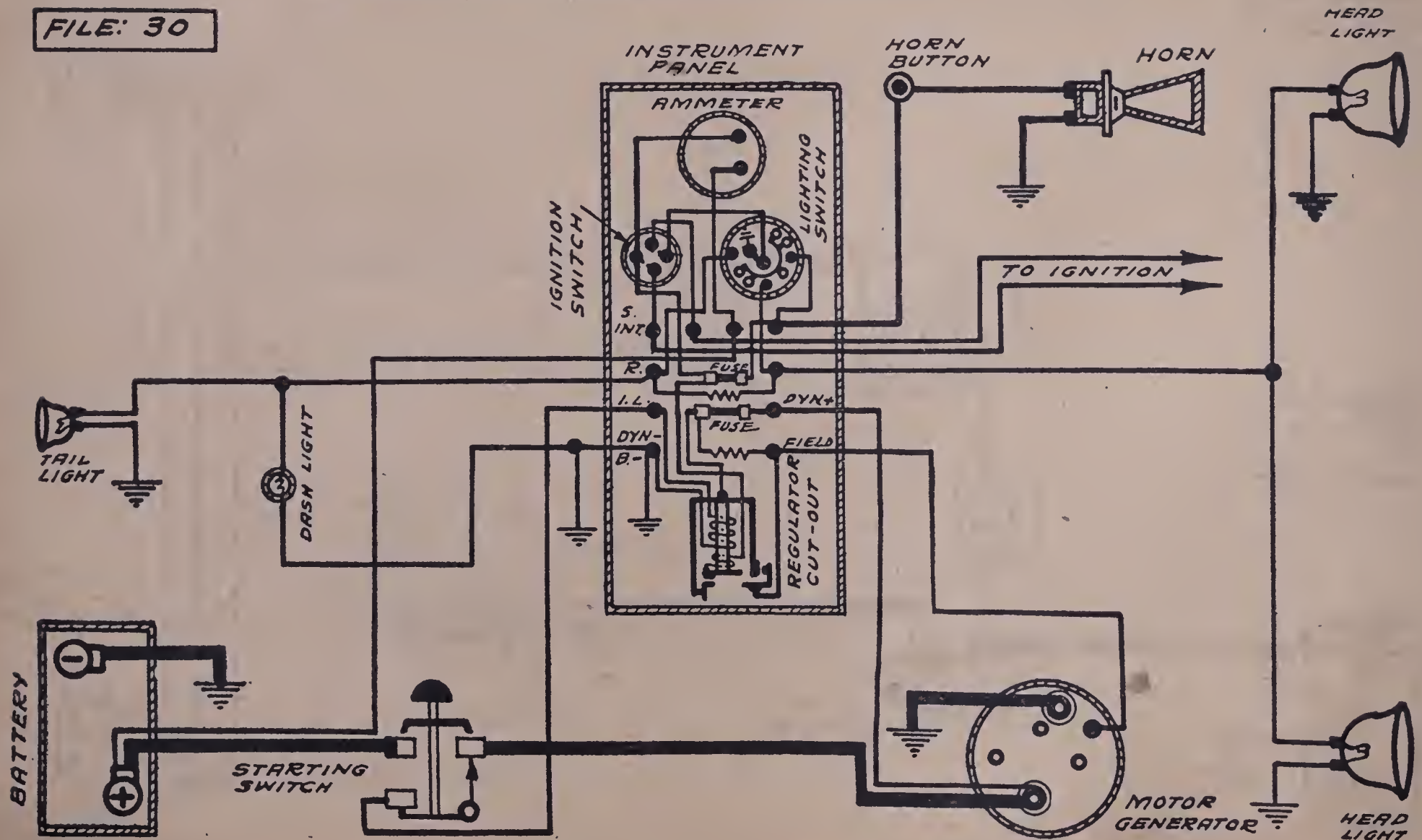


FOSTORIA LIGHT CAR

1916

6-VOLT, ALLIS-CHALMERS SYSTEM

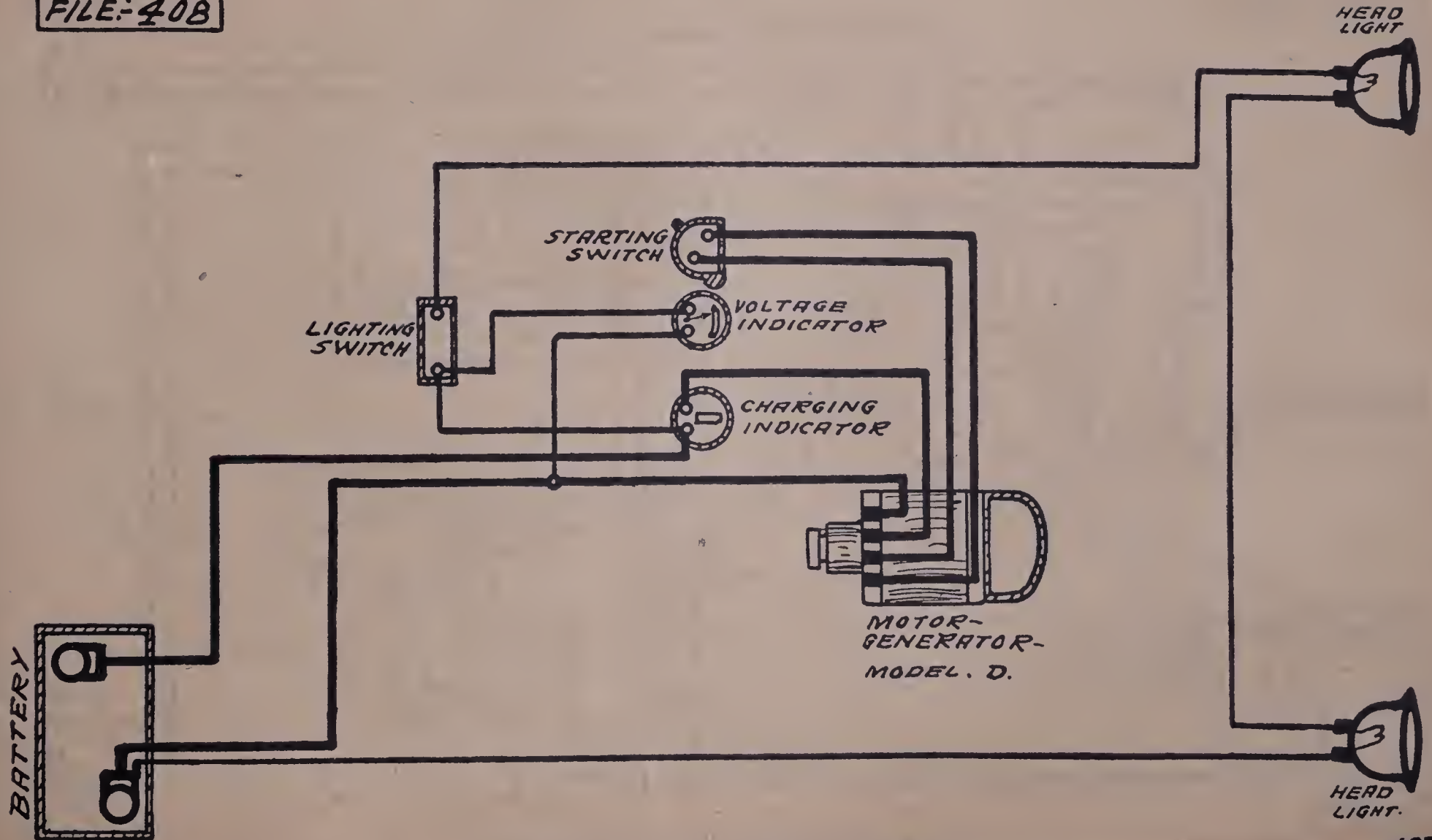
FILE: 30



FOUR WHEEL DRIVE TRUCK

24-VOLT,- NORTH EAST SYSTEM.

FILE: 408



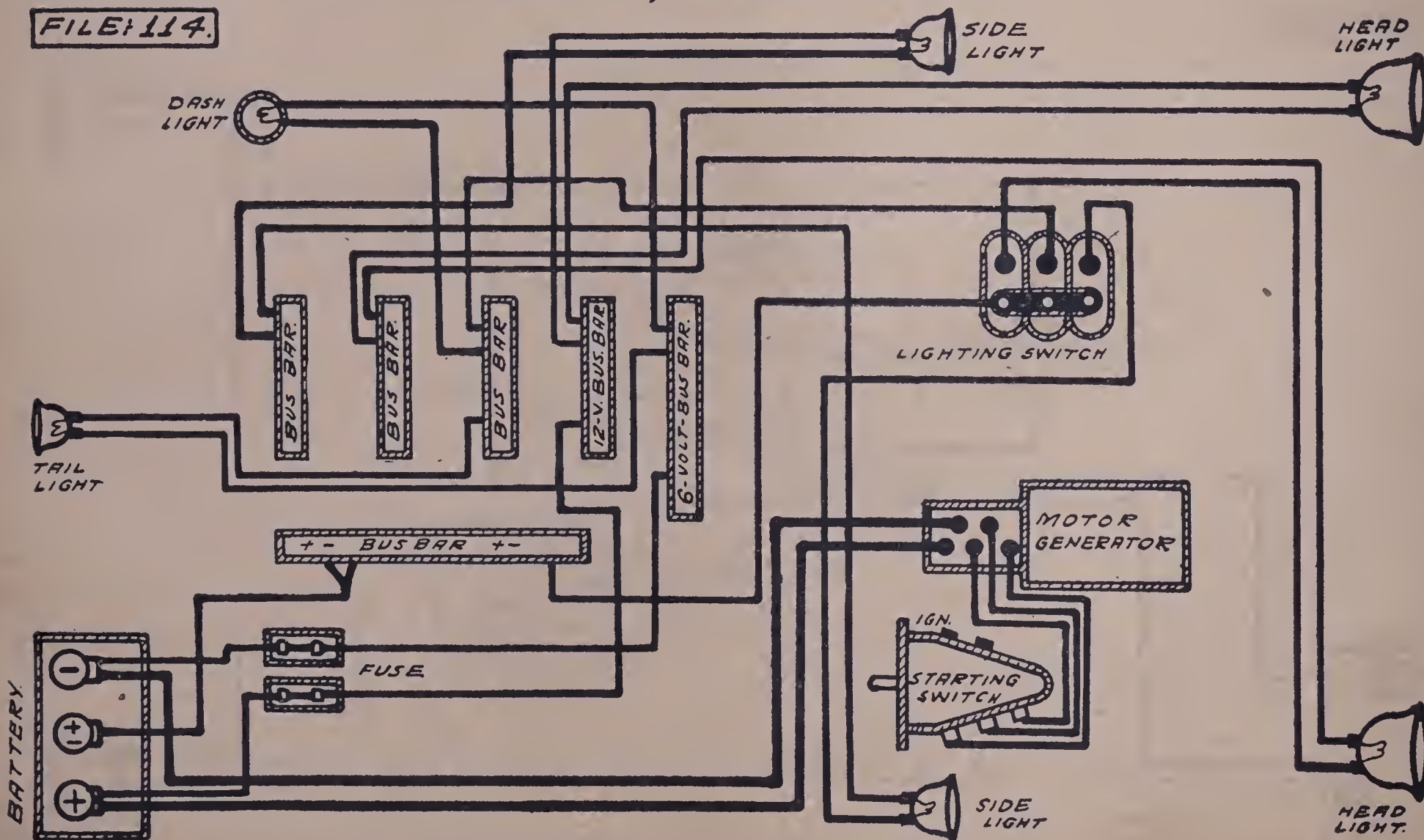
FRANKLIN

1913-1914.

SERIES 2-D-H-M.

12-VOLT, ENTZ SYSTEM.

FILE 114.



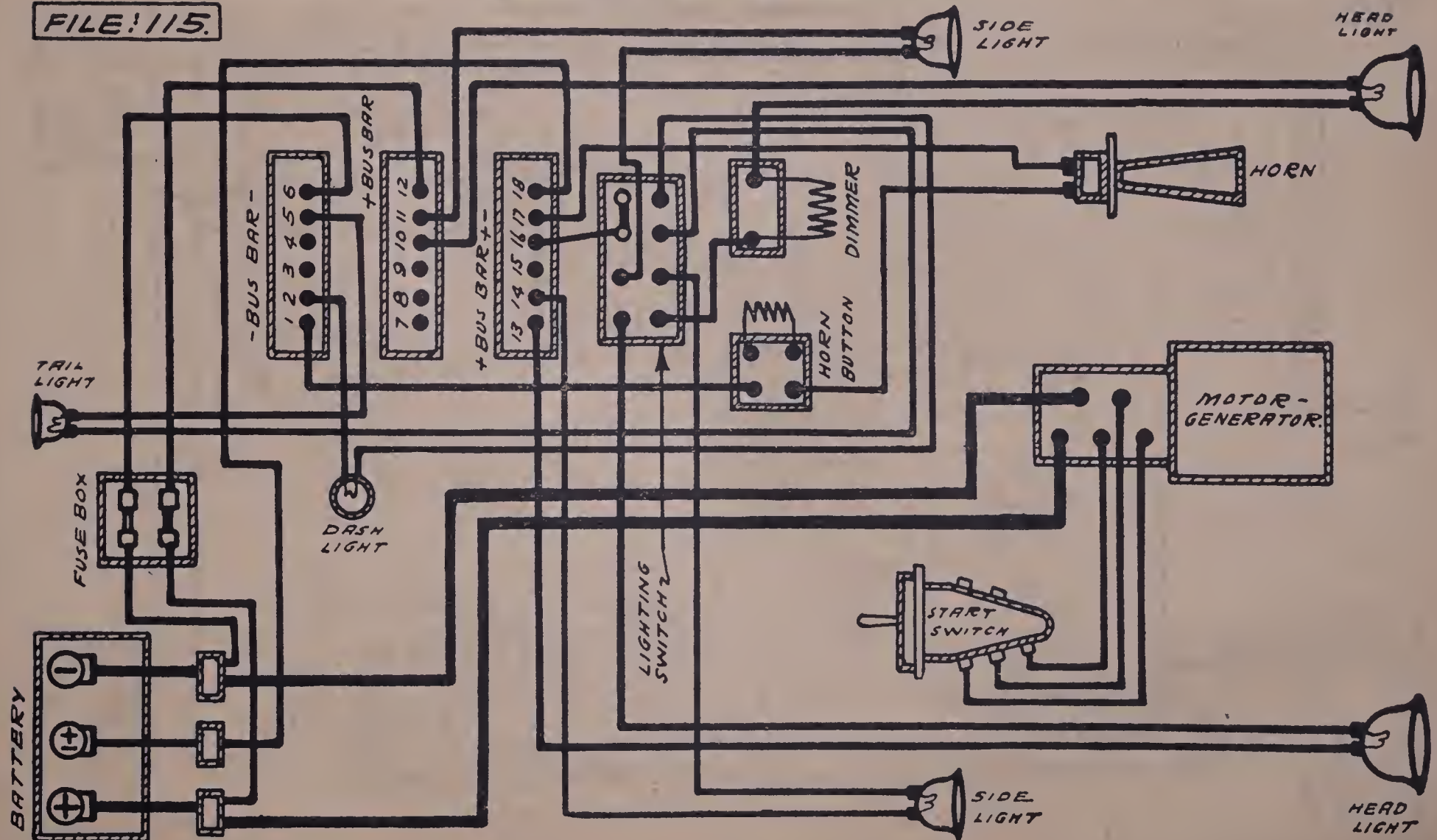
FRANKLIN

1913-1914.

SERIES 3-M.

12-VOLT, - ENTZ SYSTEM.

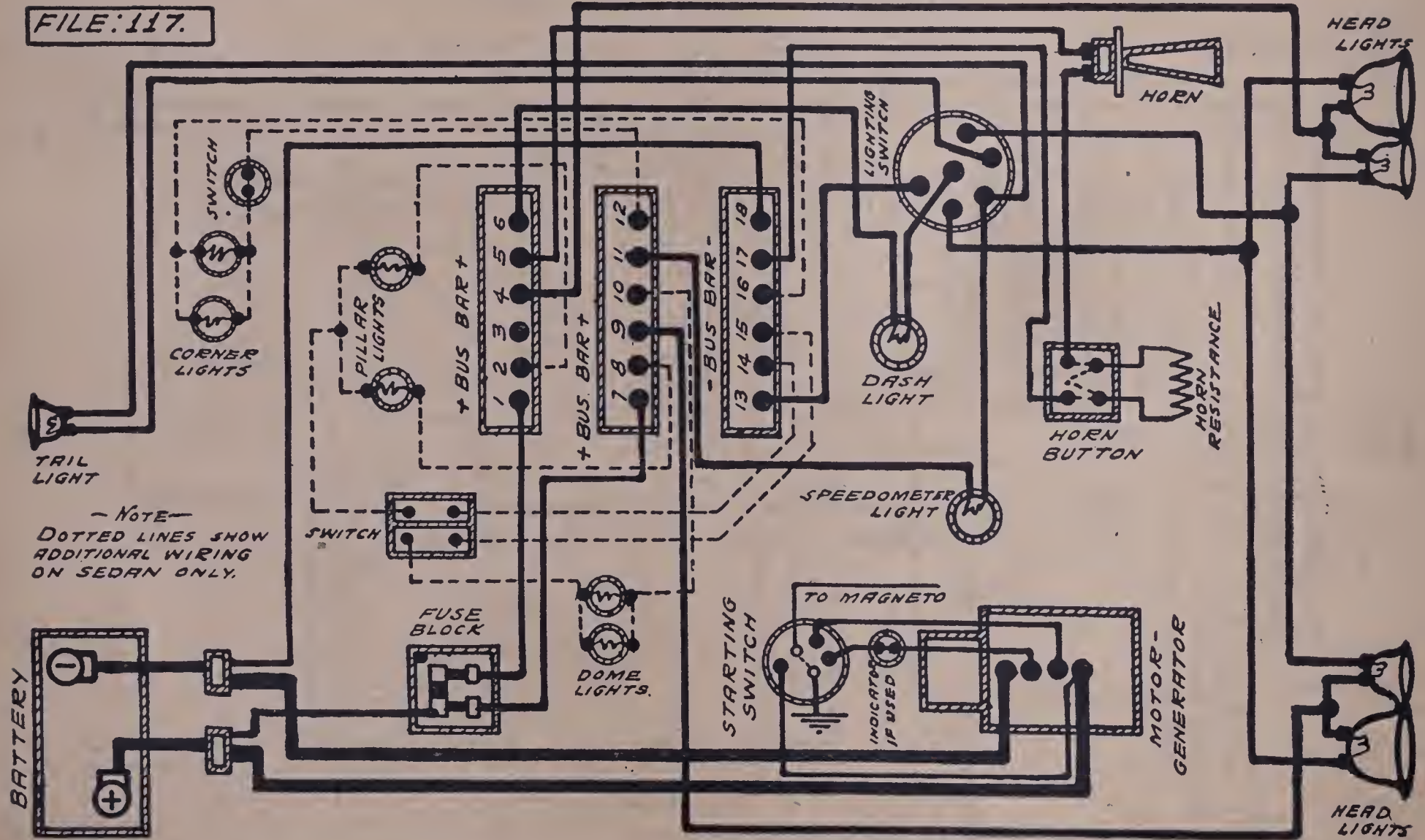
FILE 115.



FRANKLIN

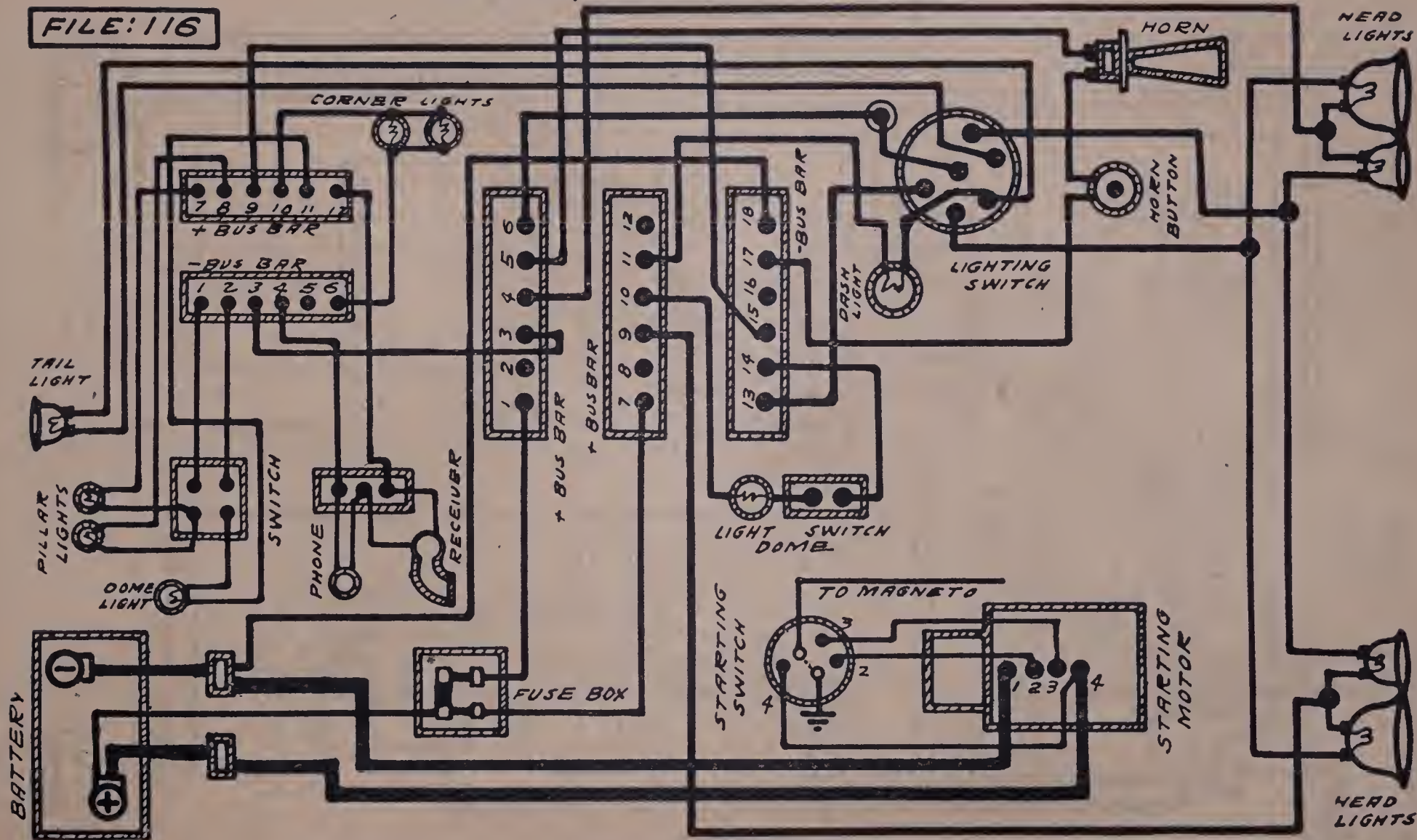
1914-1915-1916. - RUNABOUT & TOURING - SEDAN. SERIES - M-6, 7, 8.
12-VOLT, ENTZ SYSTEM.

FILE: 117.



FRANKLIN

1914-1915-1916. COUPE & BERLIN BODIES. SERIES 6-M.
12-VOLT, -ENTZ SYSTEM.



FRANKLIN

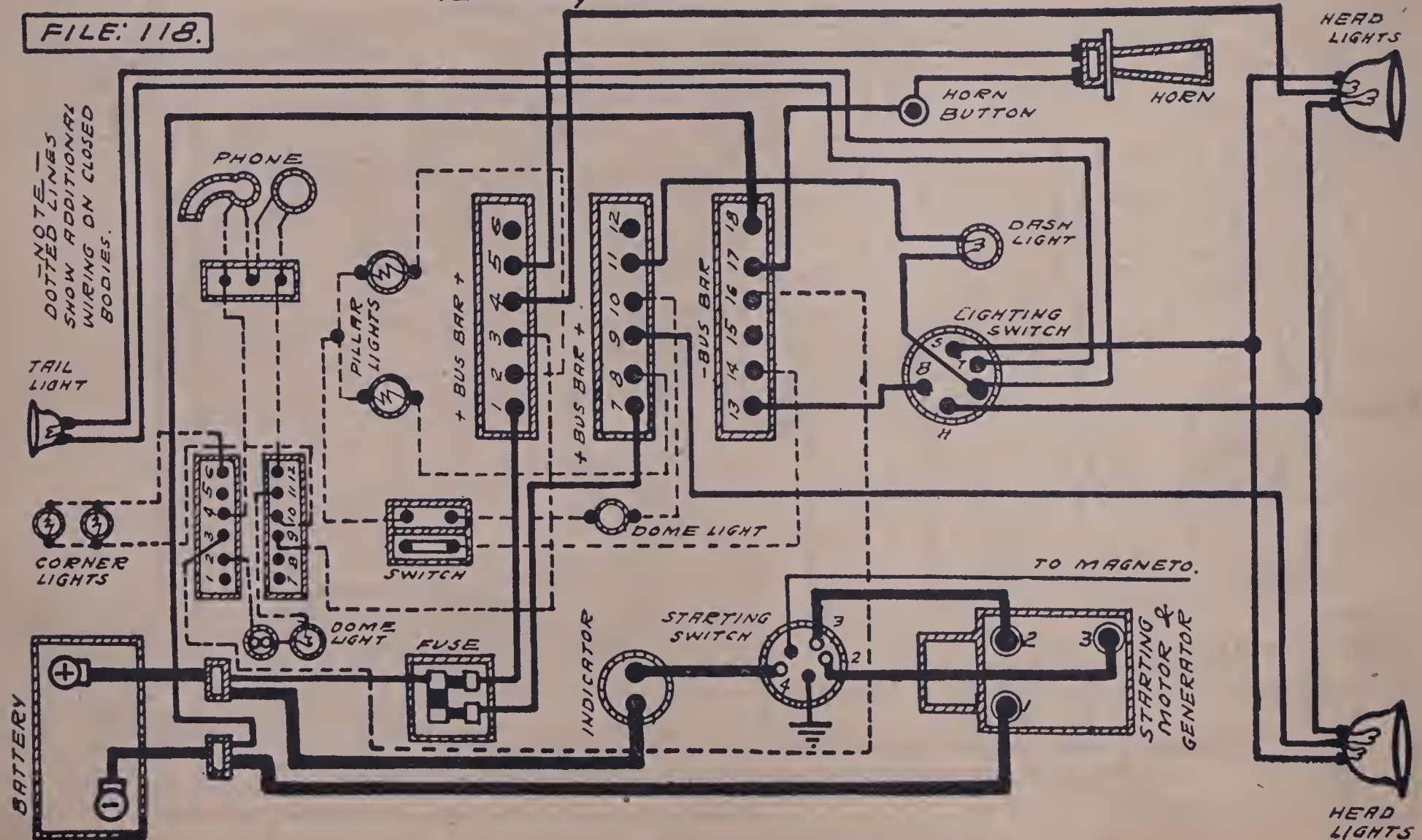
1916

RUNABOUT-TOURING-SEDAN-BERLIN.

SERIES-M-8

12-VOLT, - DYNETO SYSTEM.

FILE: 118.



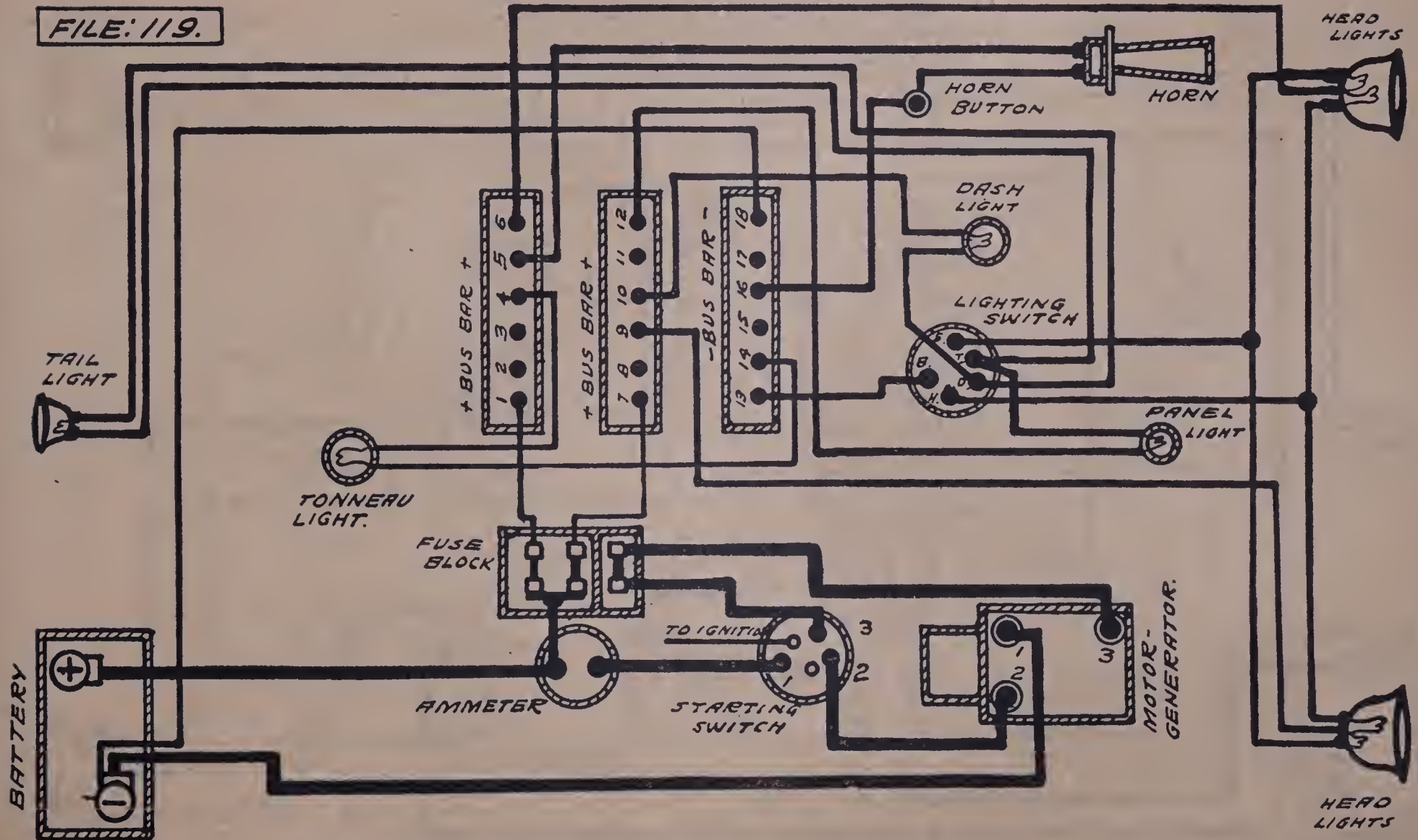
FRANKLIN

1917-1918, 1919, 1920

SERIES-9.

12-VOLT, DYNETO SYSTEM.

FILE: 119.



1919-1920

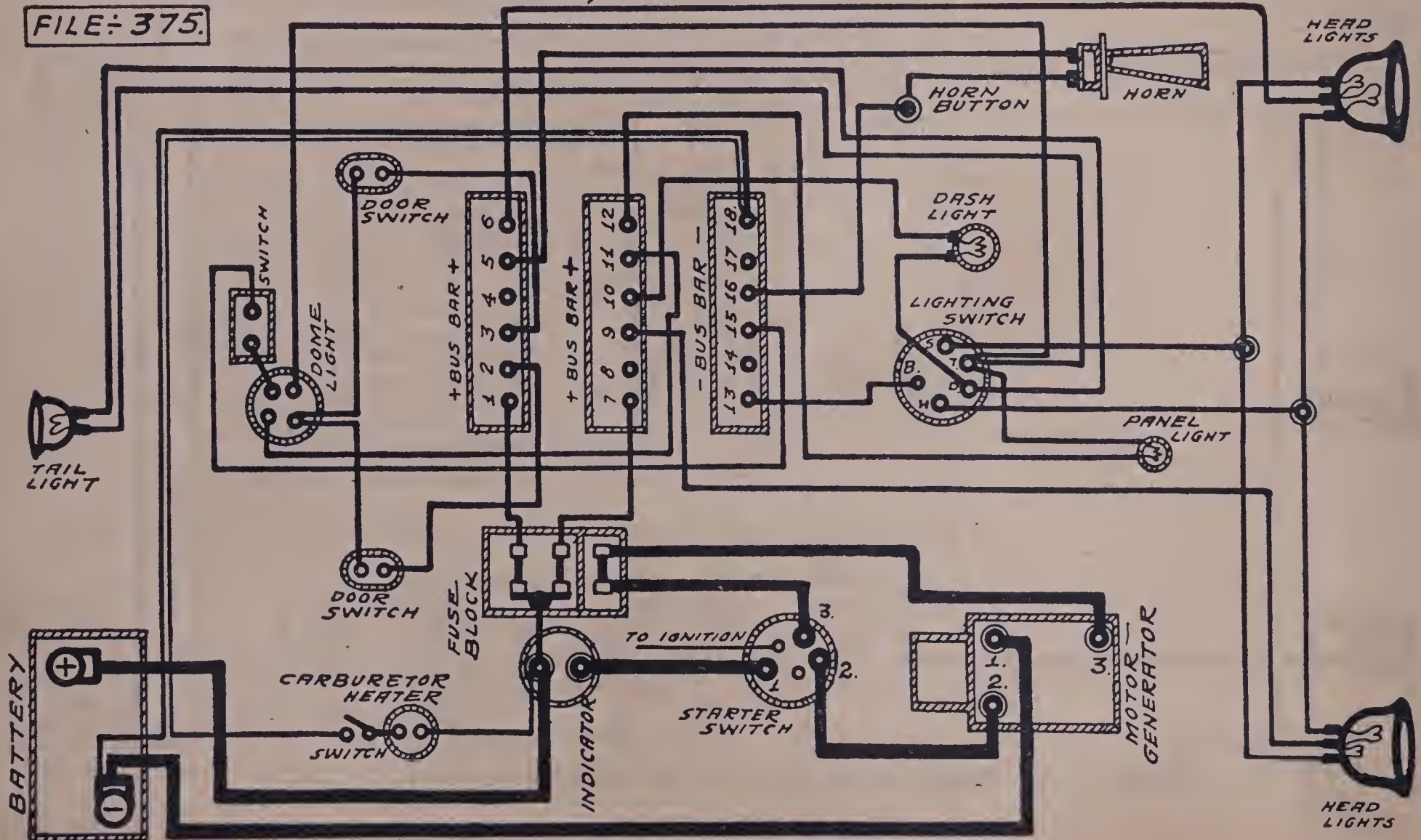
FRANKLIN

SEDAN

SERIES - 9

12-VOLT, DYNETO SYSTEM.

FILE: 375.

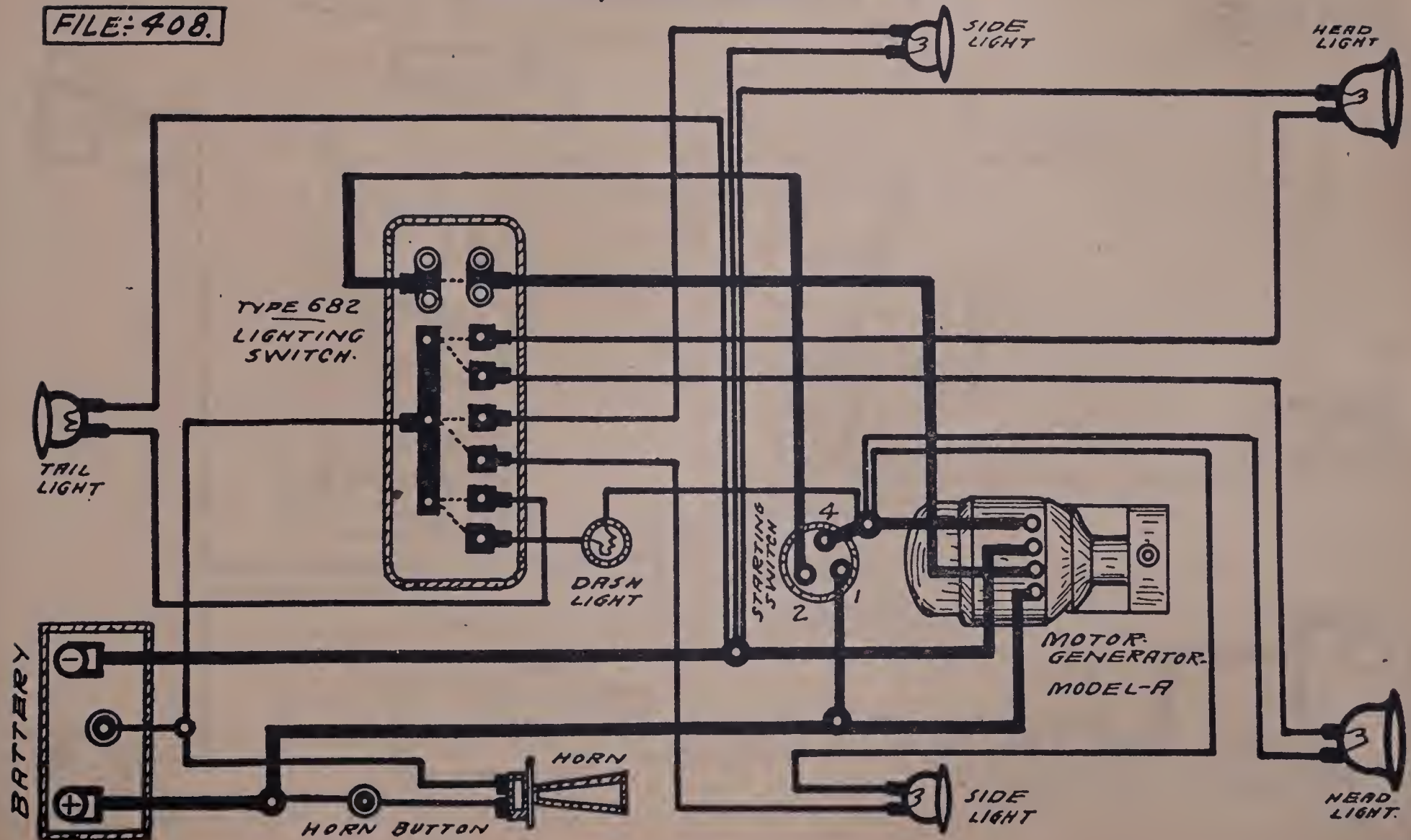


GALT

1913 MODEL

16-VOLT, NORTH EAST SYSTEM.

FILE: 408.

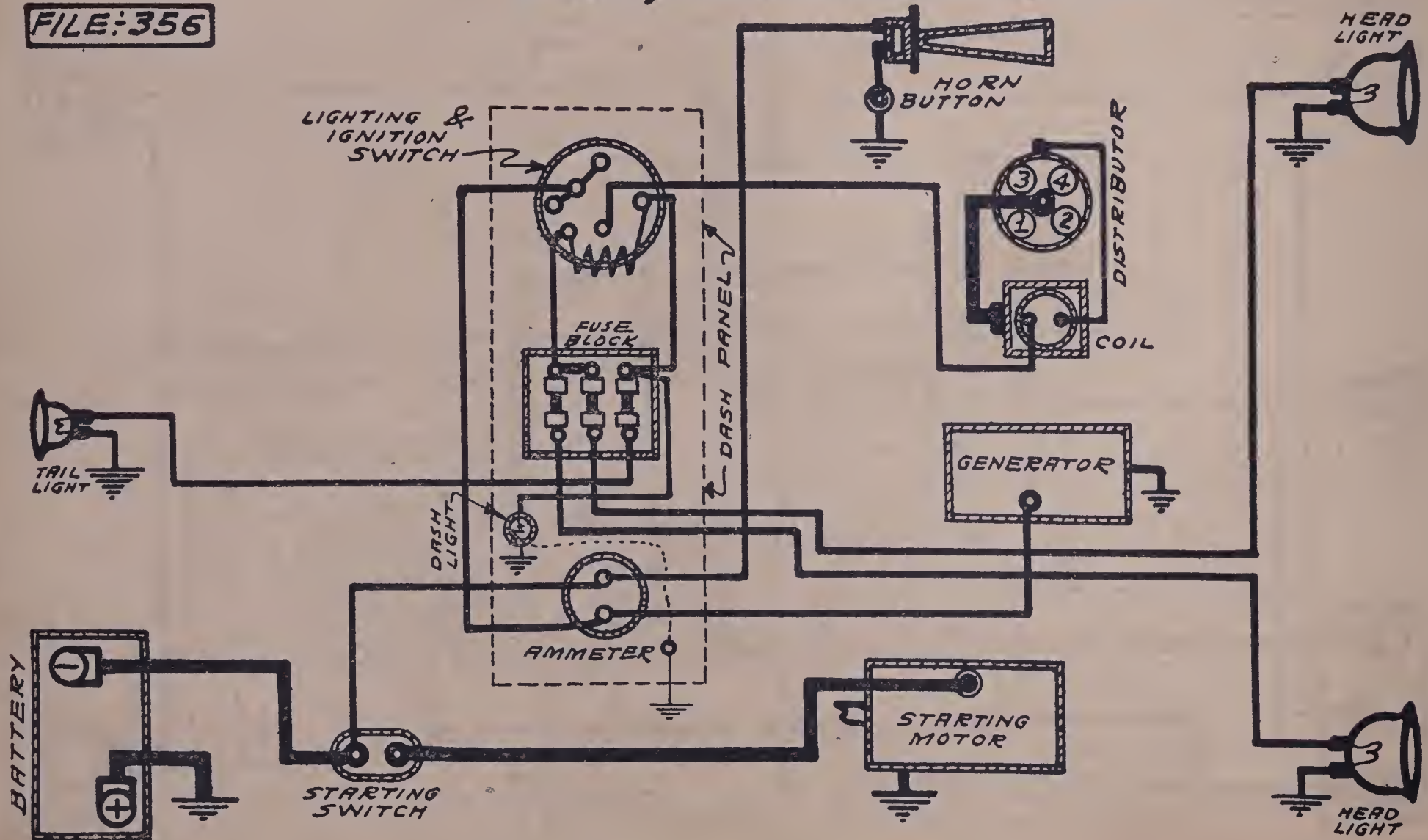


GARDNER

1920

MODEL G
6-VOLT, WESTINGHOUSE SYSTEM.

FILE:356

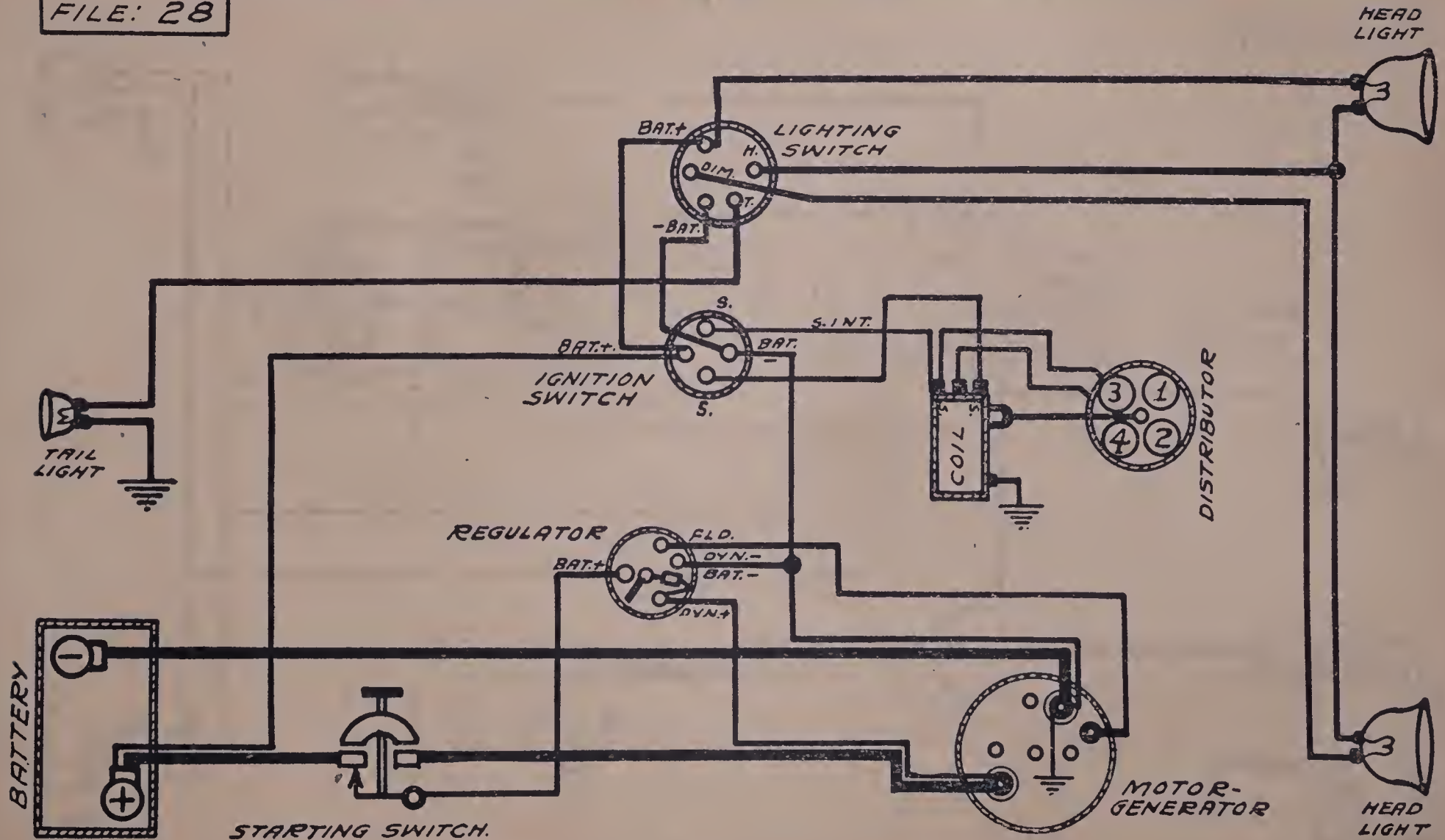


S.G. GAY CO.

1915.

6-VOLT, ALLIS-CHALMERS SYSTEM, ATWATER-KENT IGNITION

FILE: 28



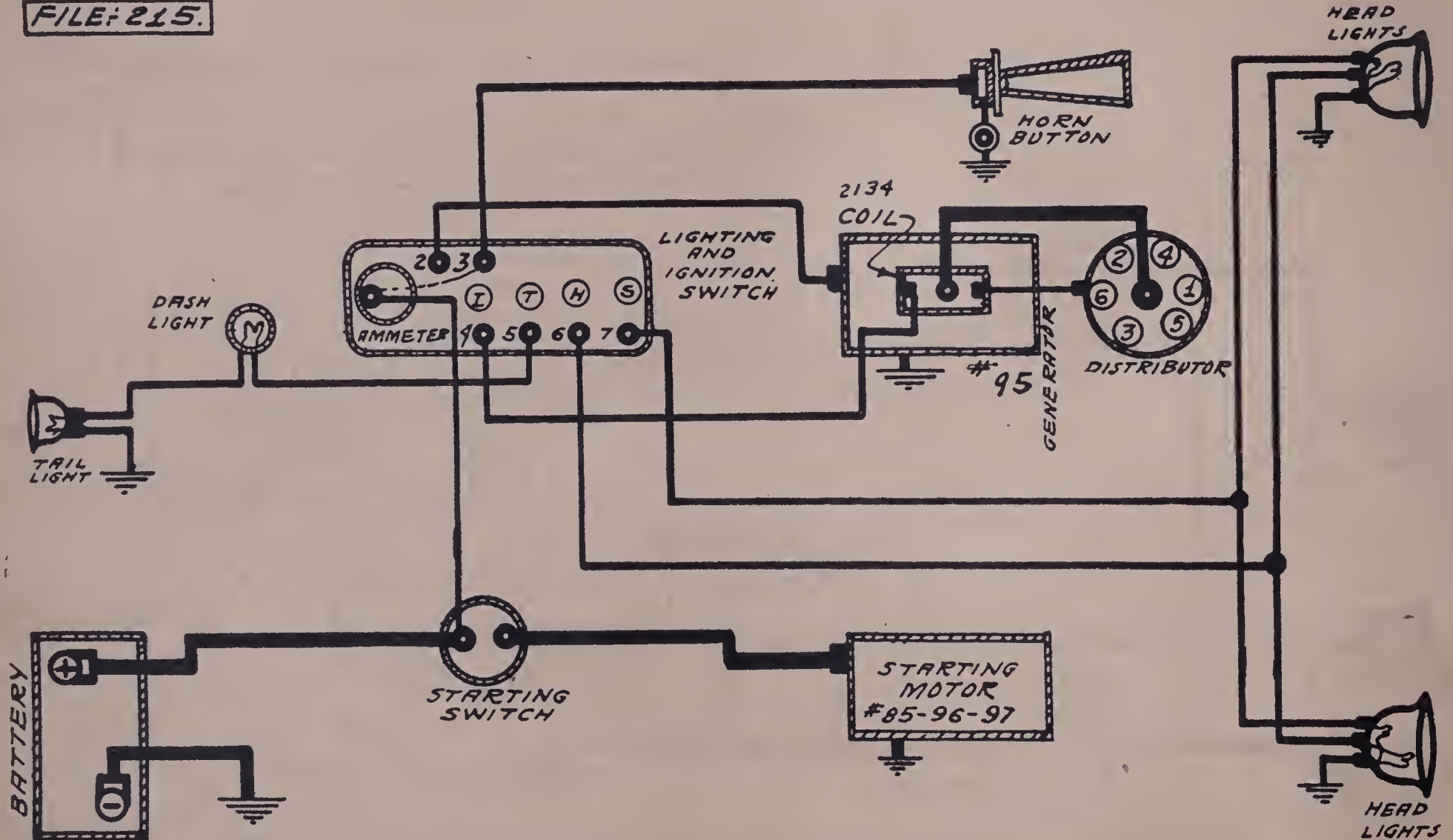
GENERAL MOTORS TRUCK

1917.

MODELS - 15, 25, 26, 30, 31, 40, 41, 70, 71, 100, 101.

6-VOLT, DELCO SYSTEM.

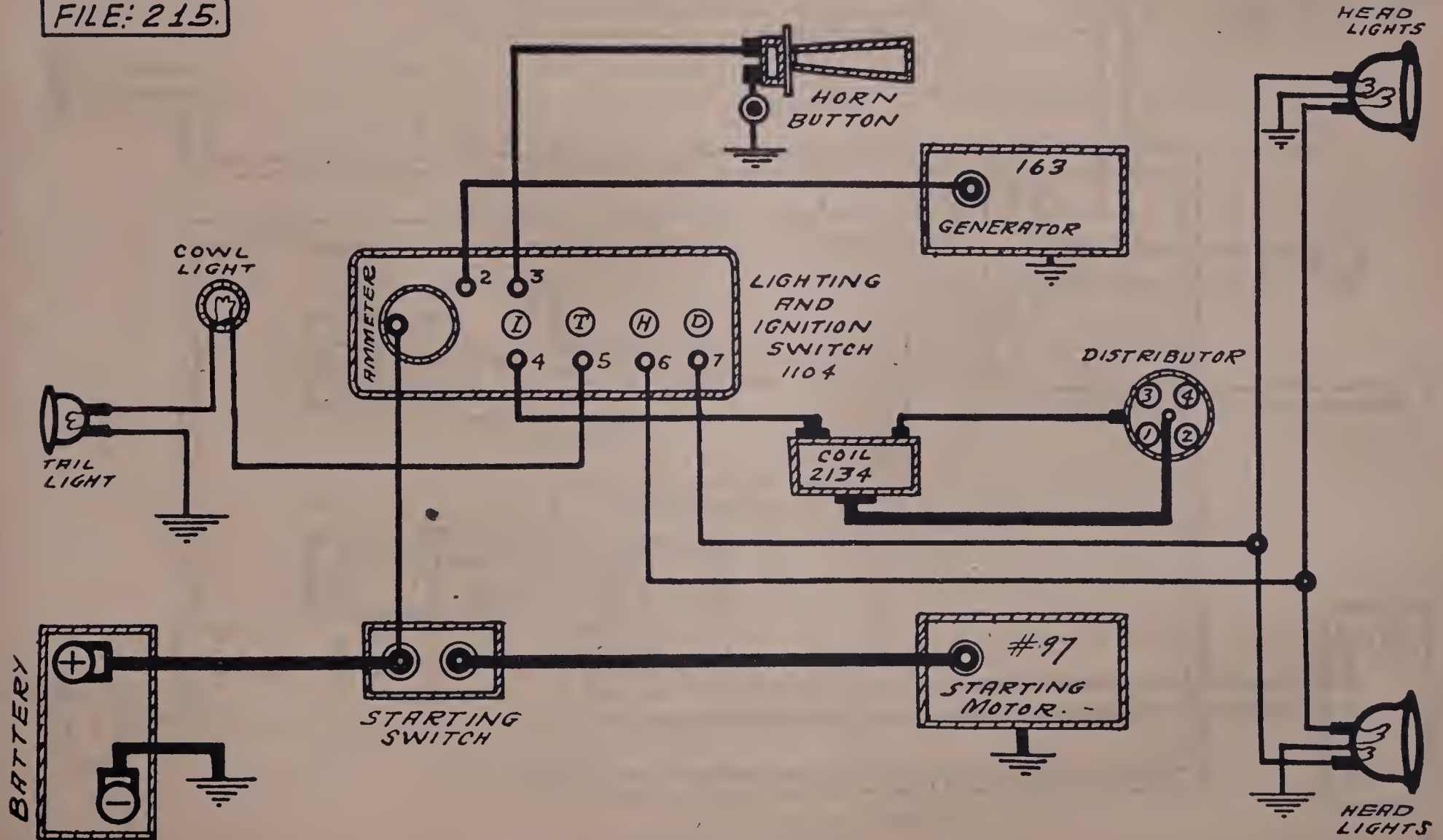
FILE: 215.



GENERAL MOTORS TRUCK

1919-1920. MODELS 16, 25, 26, 30, 31.
6-VOLT, - DELCO SYSTEM.

FILE: 215.



GLIDE

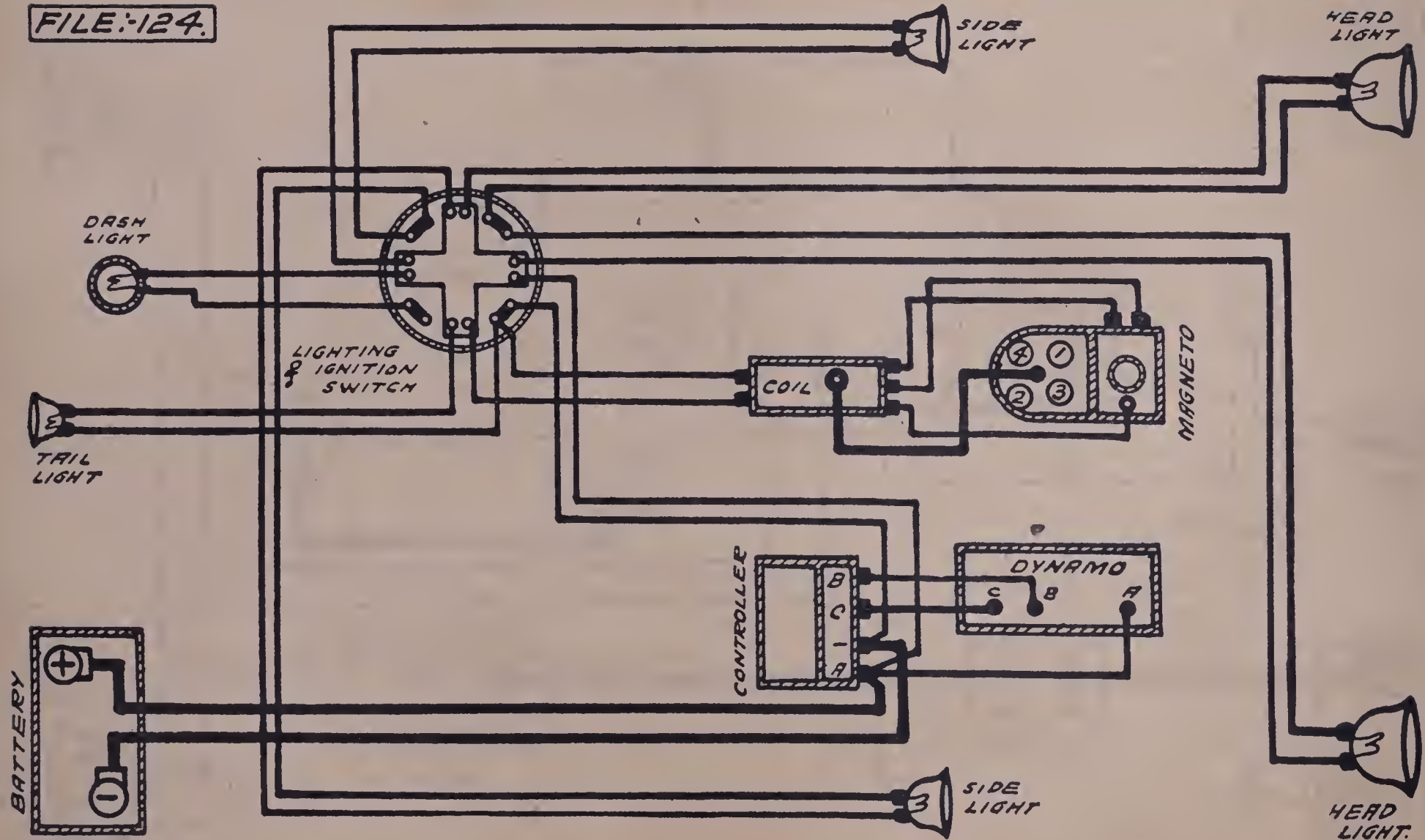
1912

CARS # 5000 TO # 5282

MODEL 36-42.

6-VOLT, WARD-LEONARD LIGHTING SYSTEM.

FILE: 124.



GLIDE

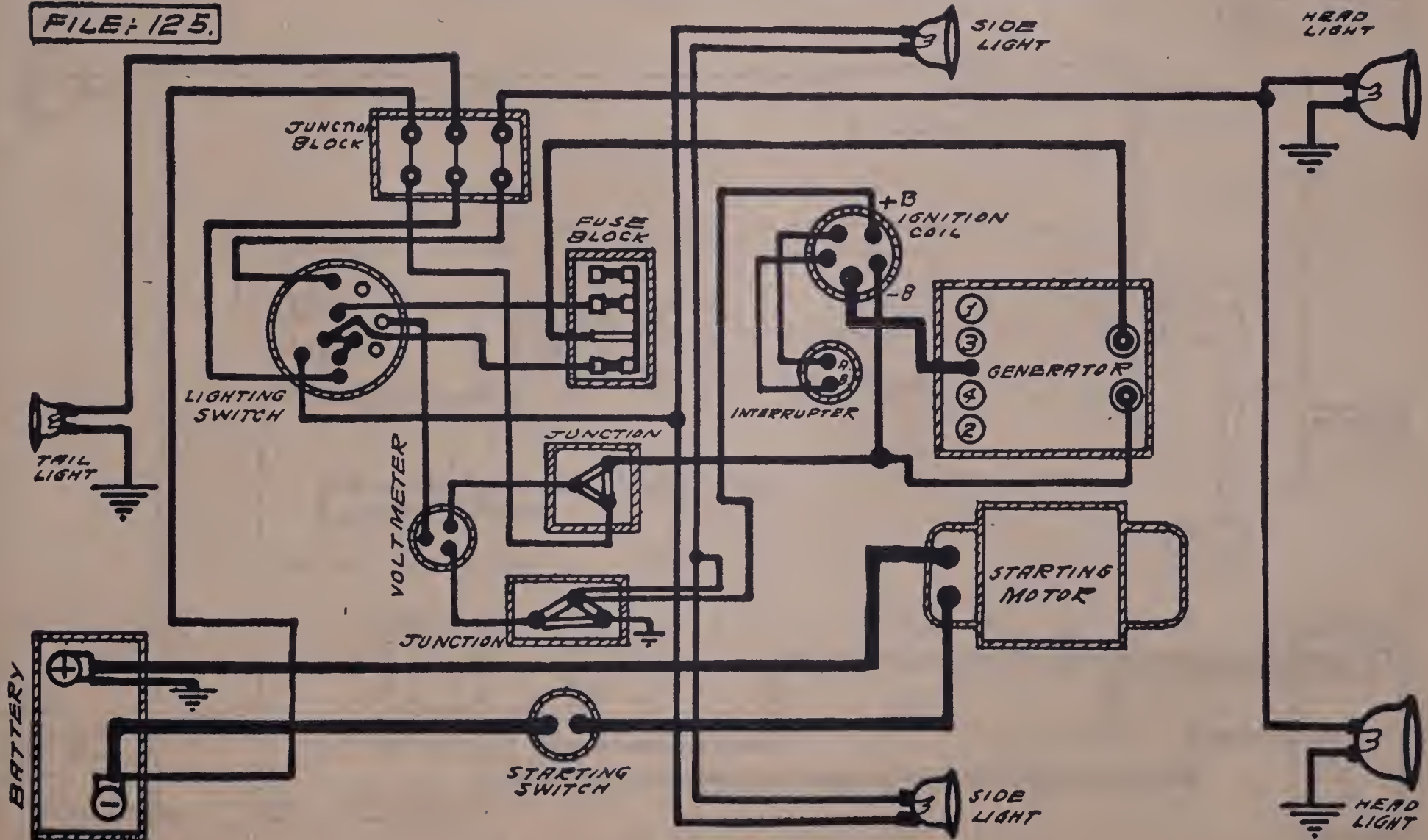
1913.

CARS # 5282 TO #7000

MODEL 36-42.

6-VOLT, WESTINGHOUSE SYSTEM.

FILE: 125.

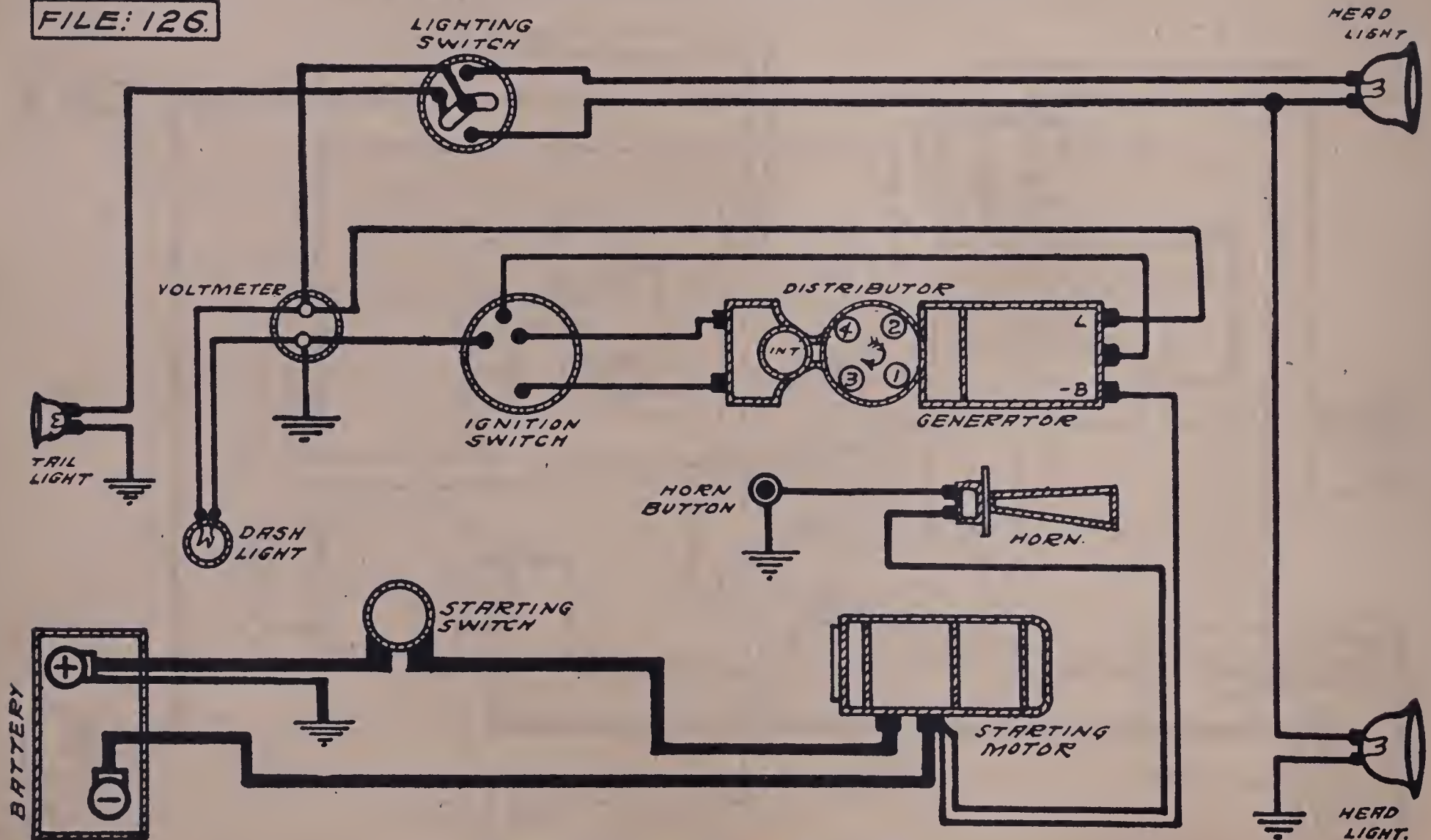


GLIDE

1914

CARS # 7000 TO # 7360. MODEL 30
6-VOLT, WESTINGHOUSE SYSTEM.

FILE: 126.



GLIDE

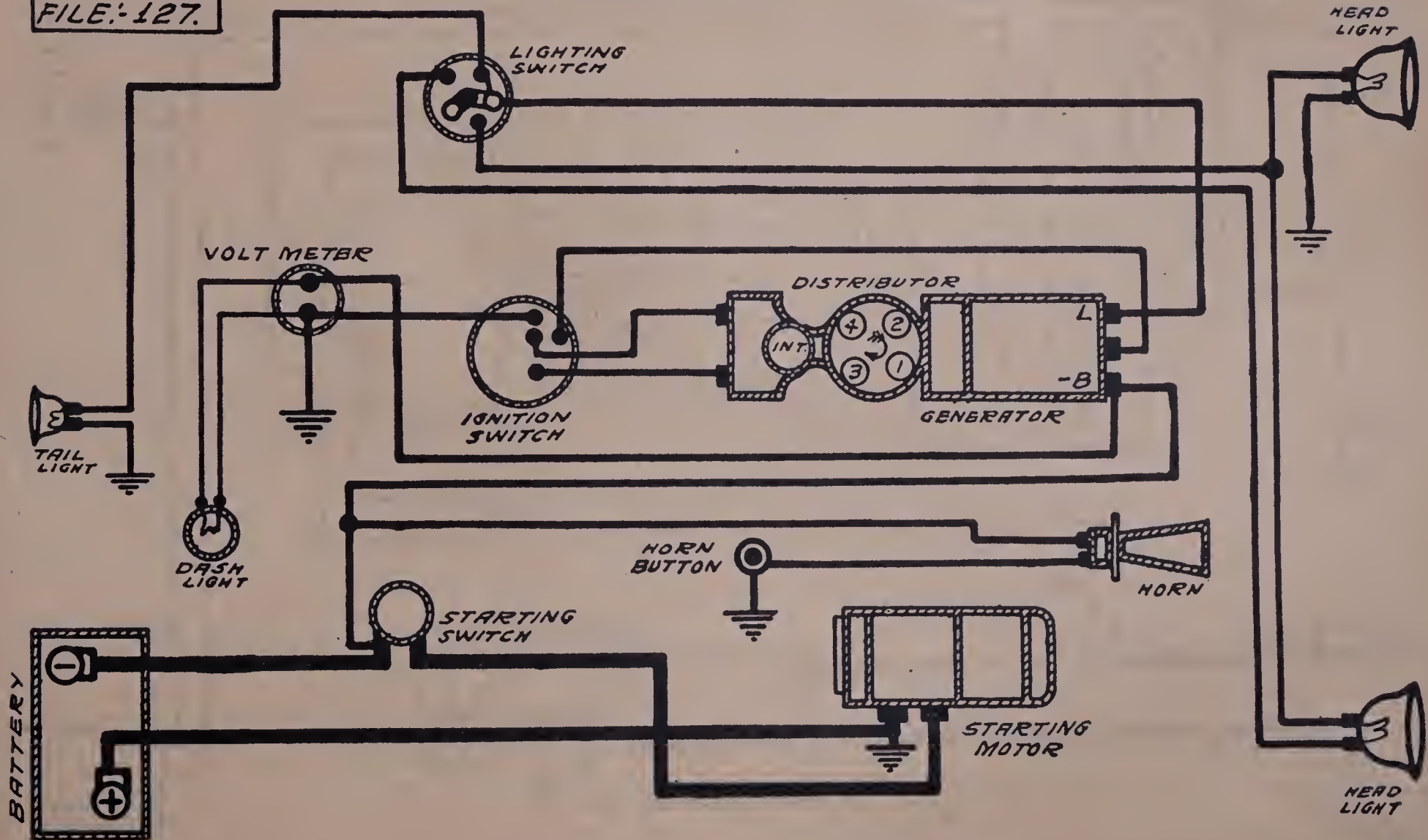
1915

CARS# 7361-TO-#7389.

MODEL 30

6-VOLT, WESTINGHOUSE SYSTEM.

FILE: 127.

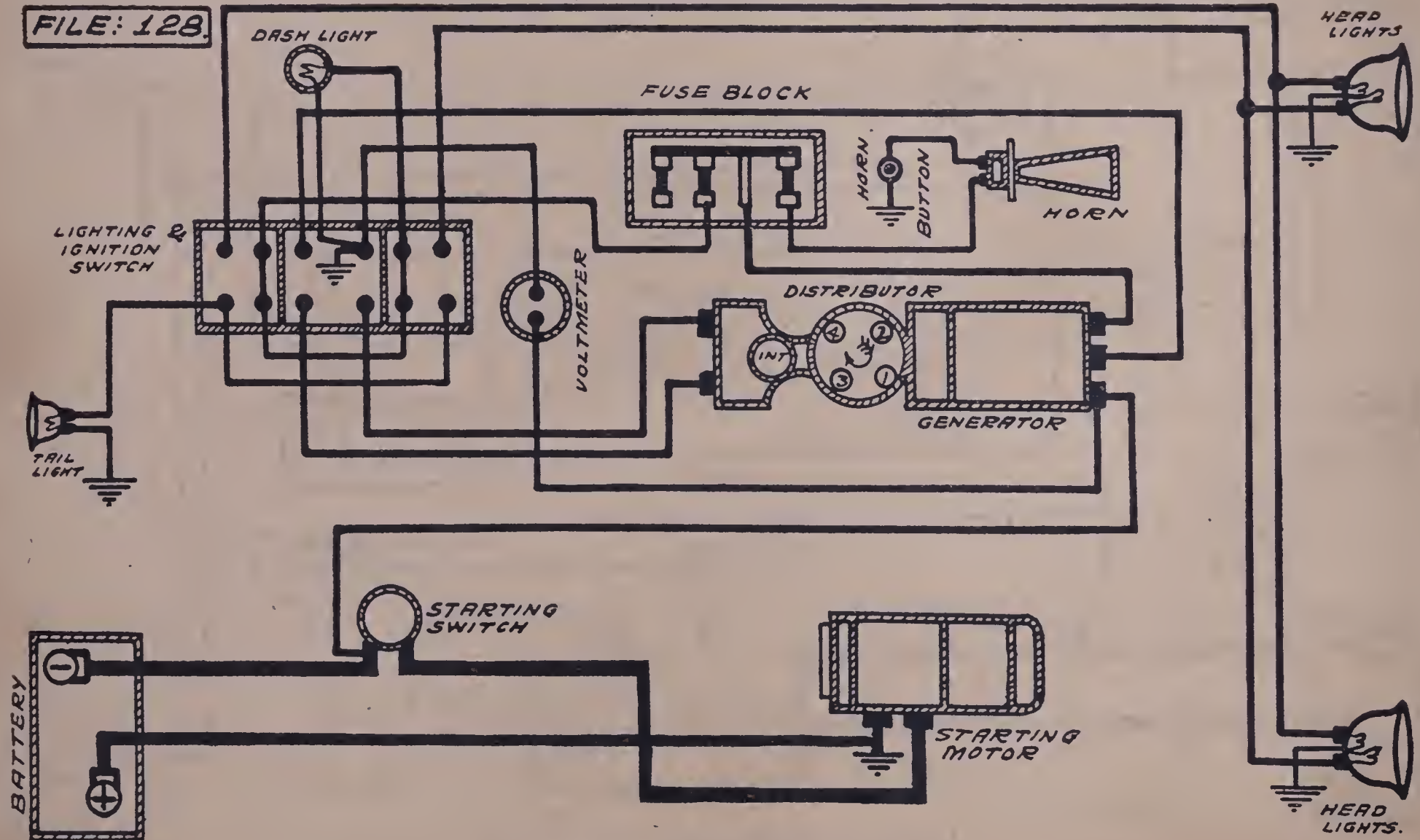


GLIDE

1915

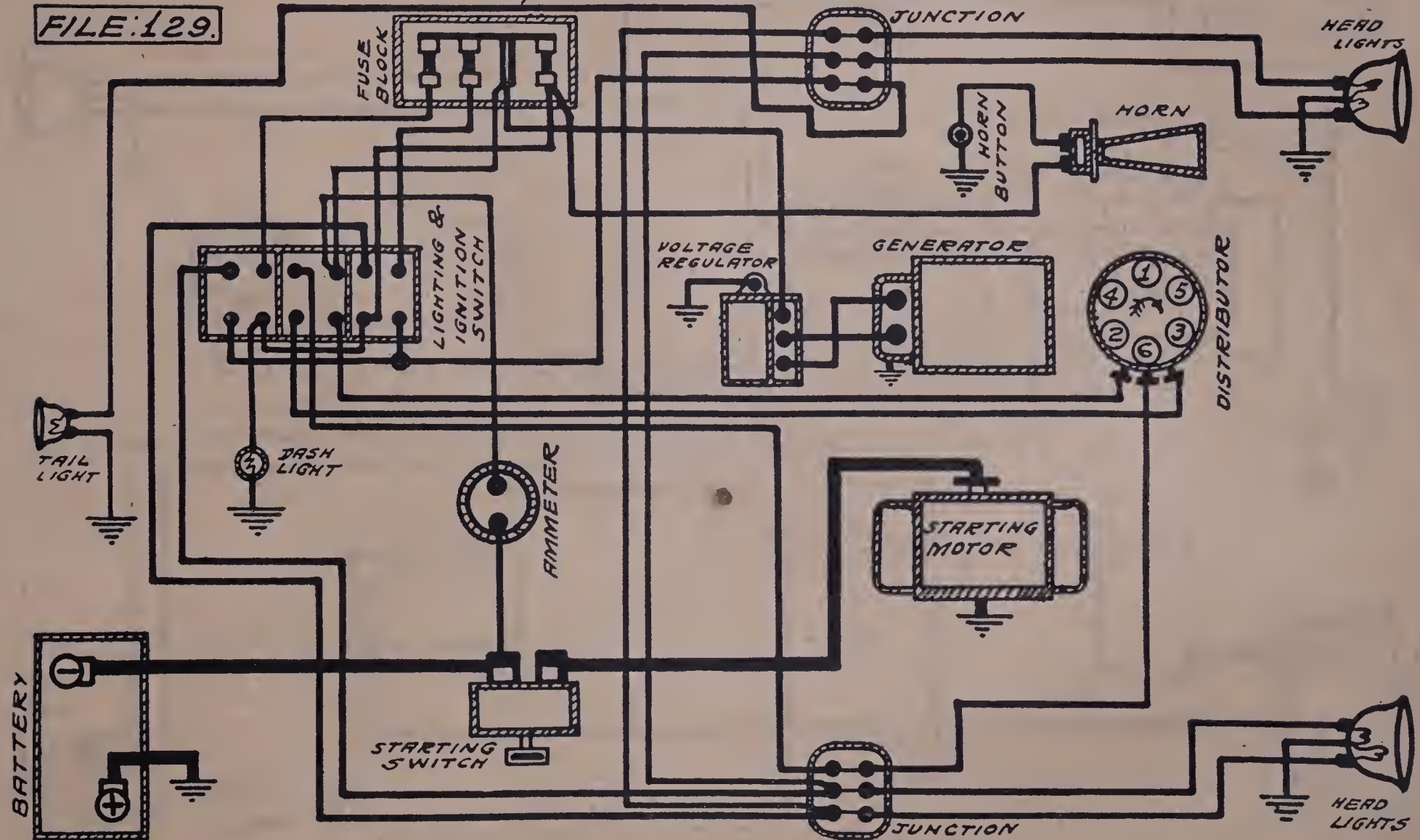
CARS# 7389 -TO- #7698 MODEL 30
6-VOLT, WESTINGHOUSE SYSTEM.

FILE: 128.



GLIDE

1916-1917. CARS # 9000 TO # 10255 MODEL, SIX-40
6-VOLT, WESTINGHOUSE SYSTEM.



GLIDE

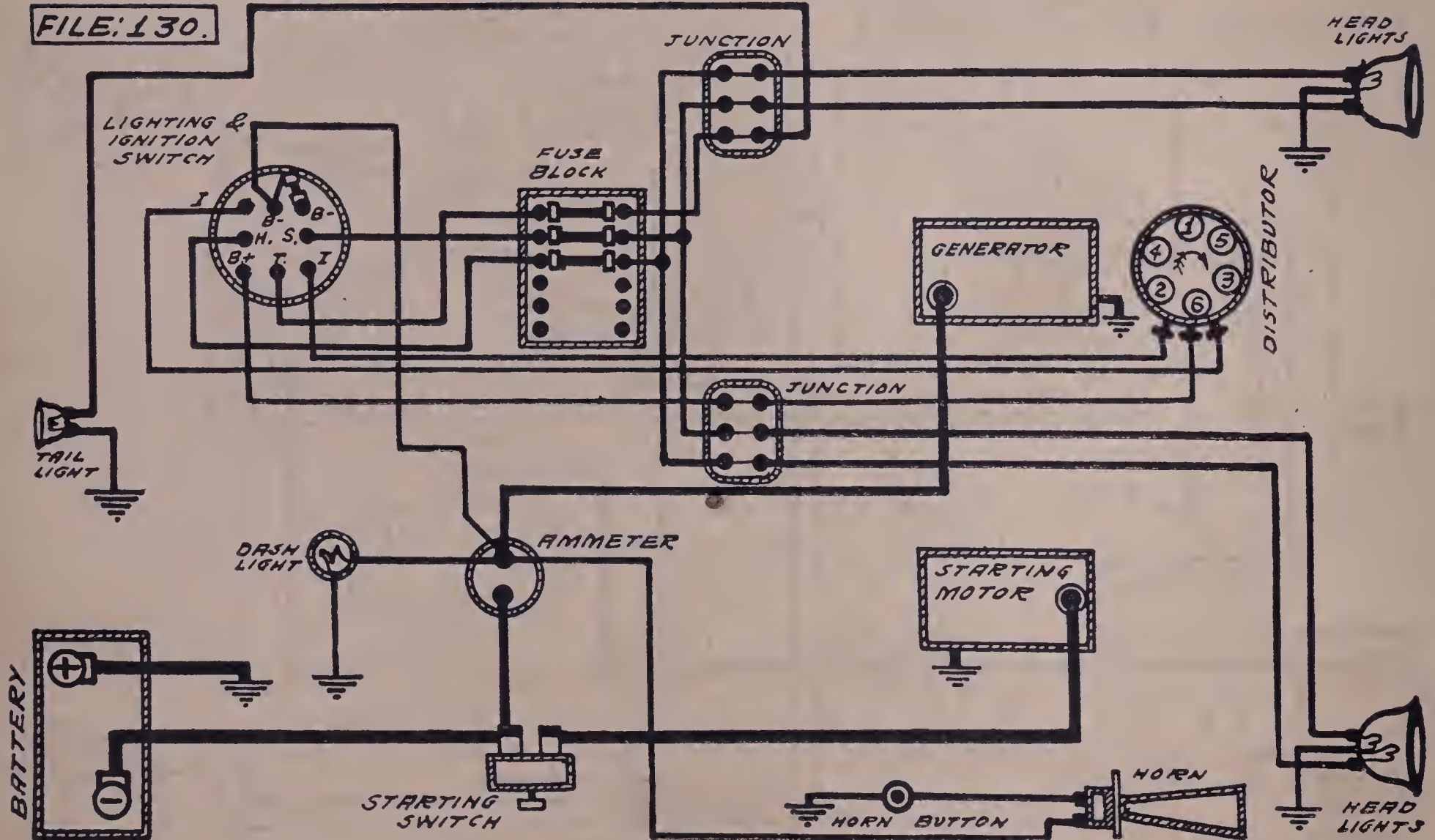
1918

CARS #10255-TO#

MODEL-LIGHT-SIX-40.

6-VOLT, WESTINGHOUSE SYSTEM.

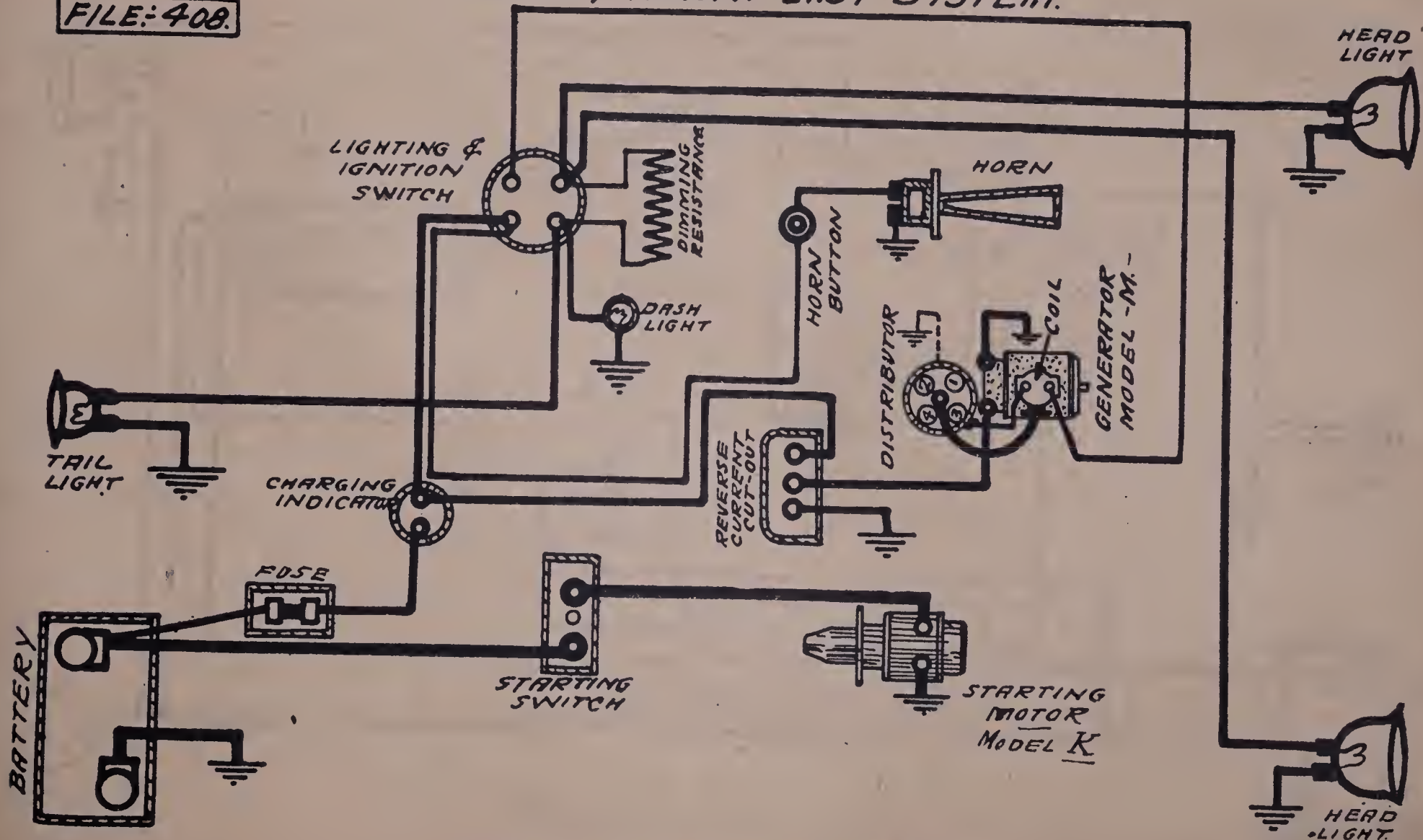
FILE: 130.



GRAMM-BERNSTEIN TRUCK.

6-VOLT, - NORTH-EAST SYSTEM.

FILE: 408.



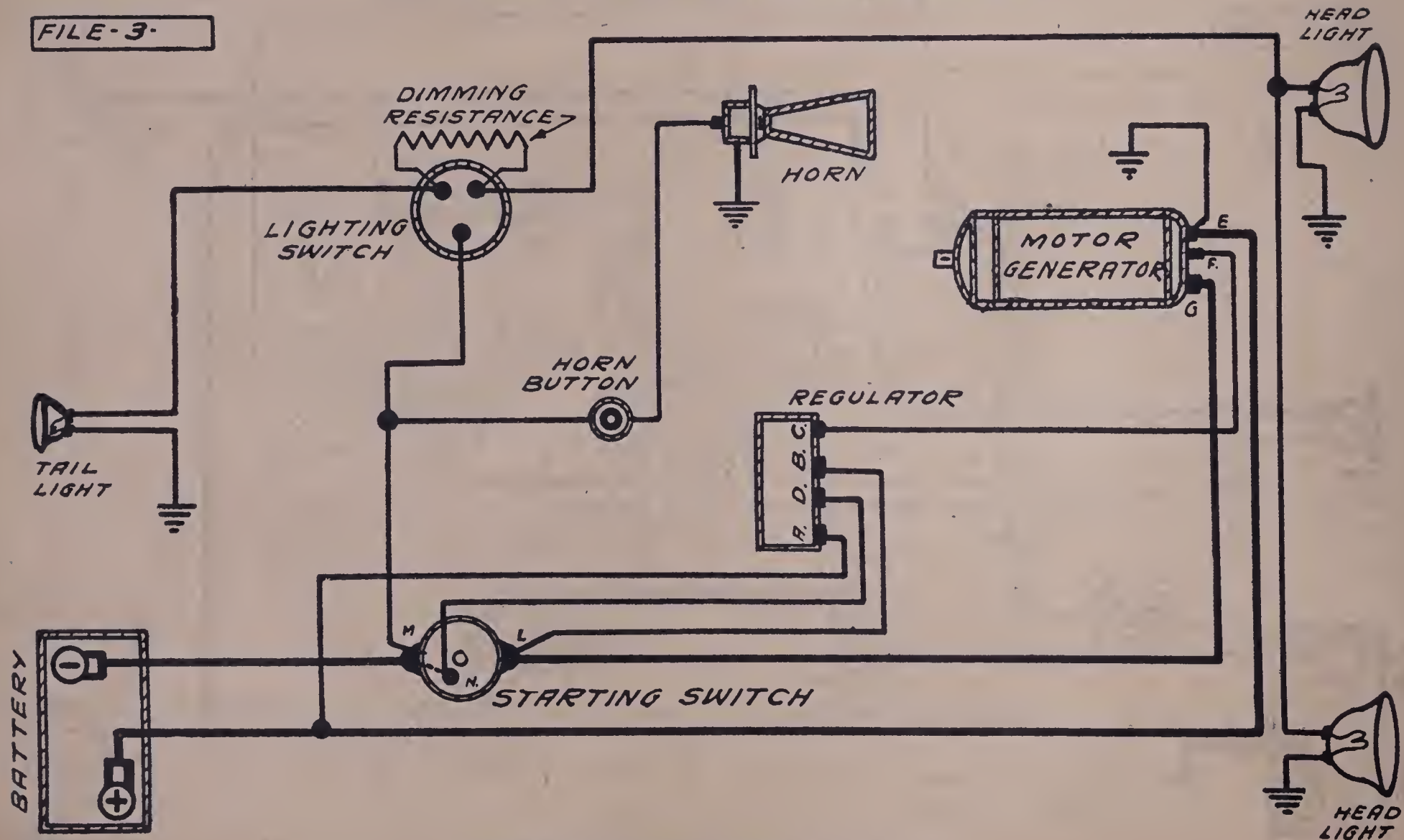
GRANT

1914

MODEL-M.

6-VOLT - ALLIS-CHALMERS SYSTEM

FILE-3-



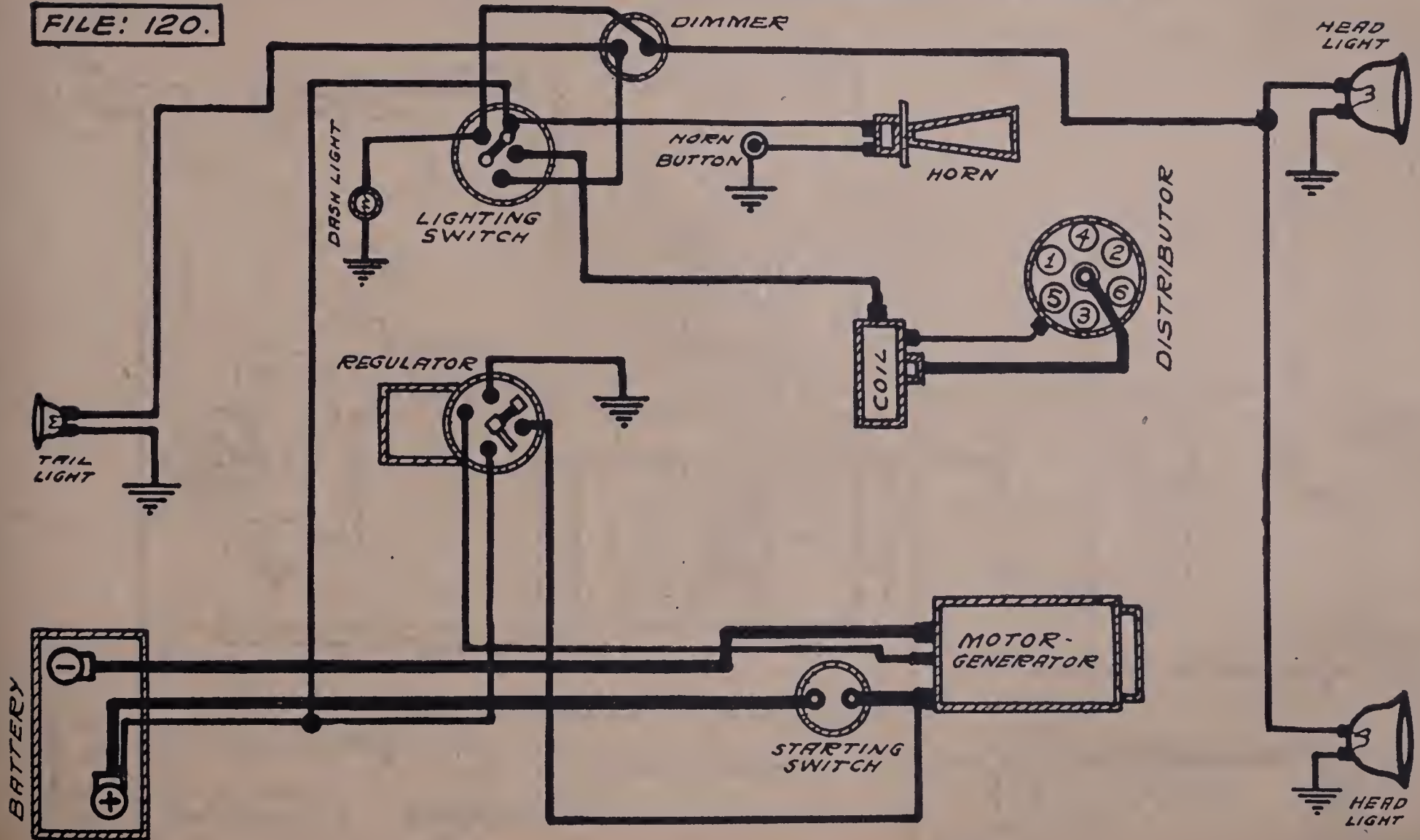
GRANT

1915

MODEL-SIX

6-VOLT, ALLIS-CHALMERS SYSTEM.

FILE: 120.



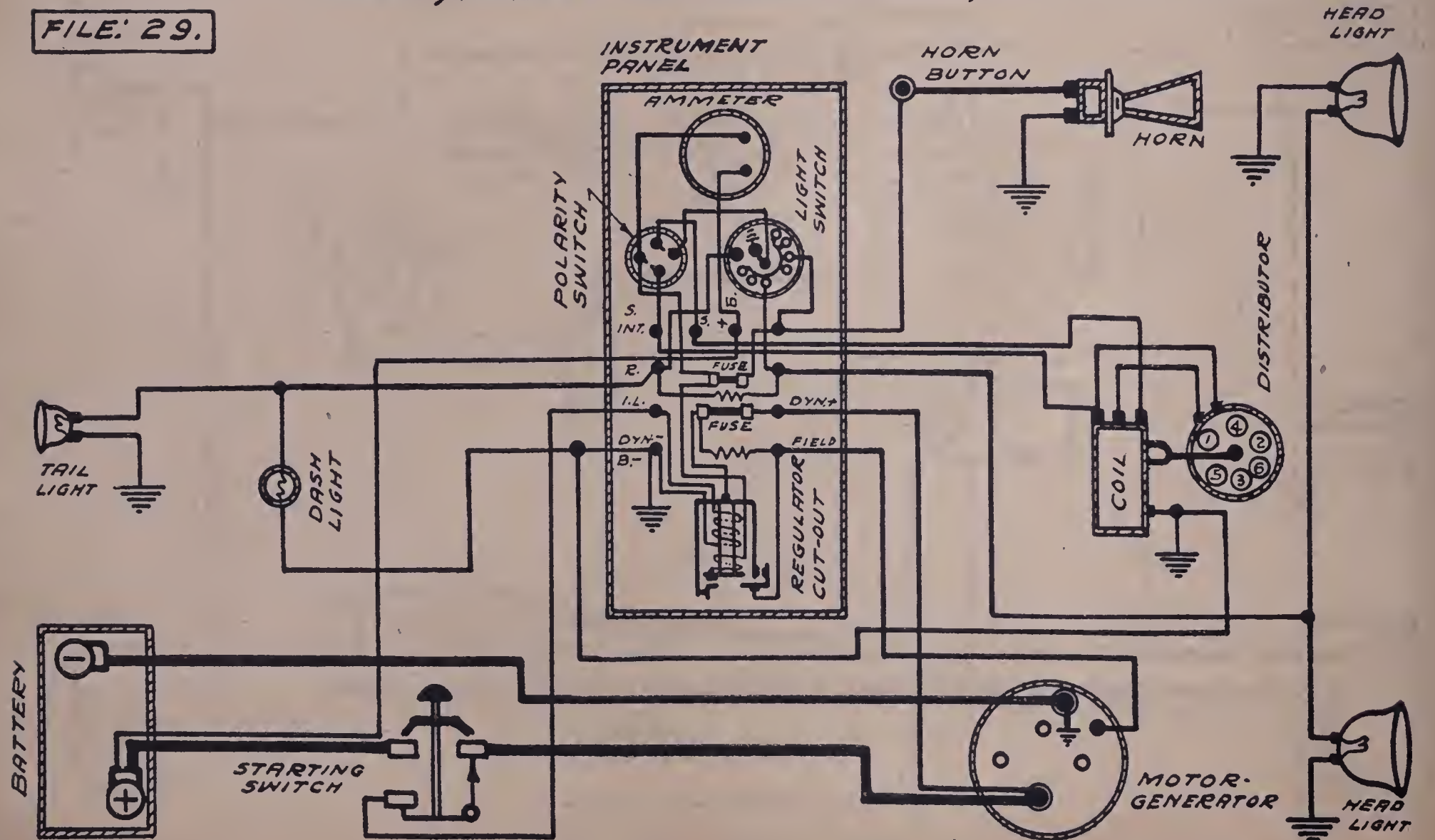
GRANT

1916

MODEL SIX-V

6-VOLT, ALLIS-CHALMERS SYSTEM, ATWATER-KENT IGNITION

FILE: 29.



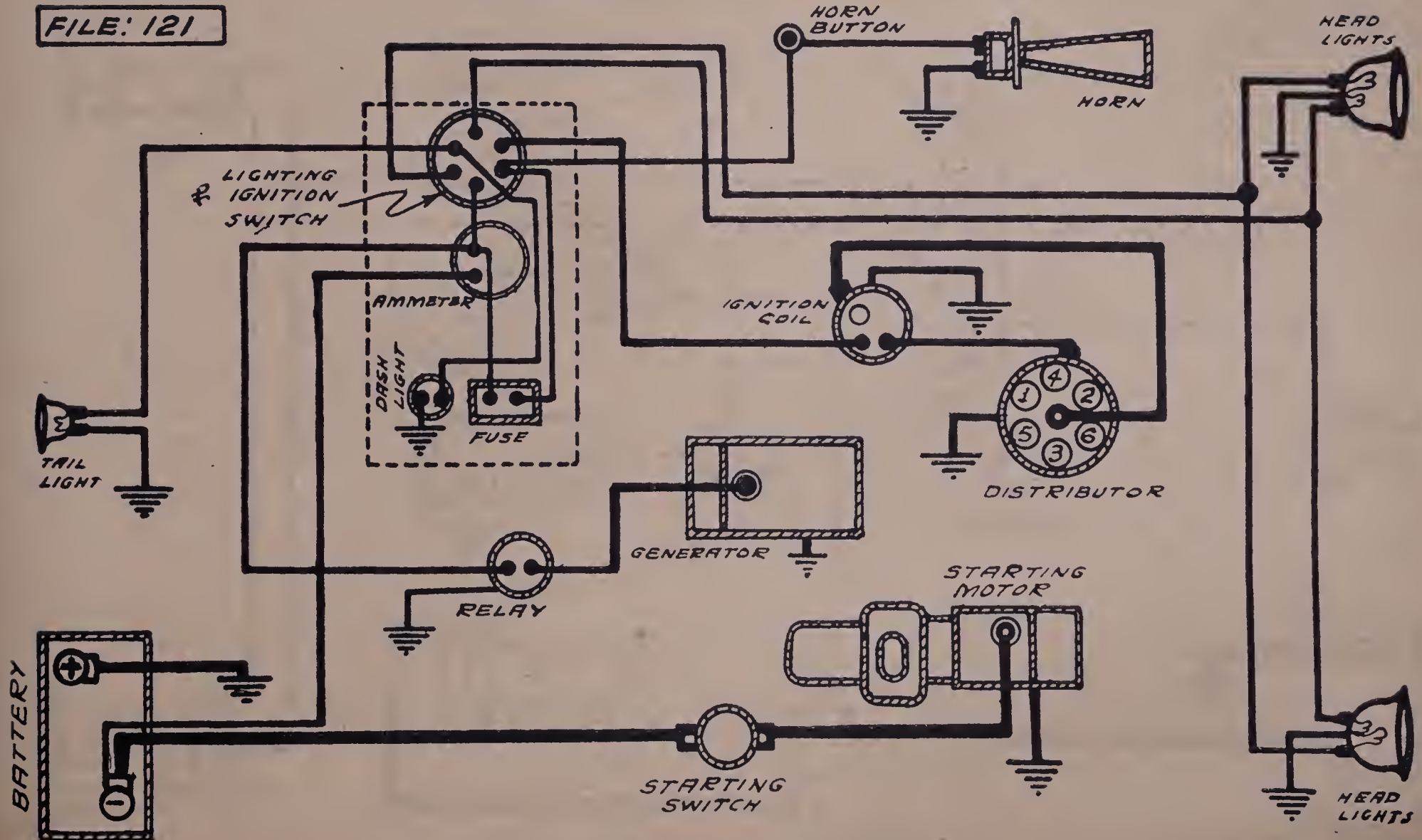
GRANT

1917

MODEL-K-6

6-VOLT, WAGNER SYSTEM.

FILE: 121



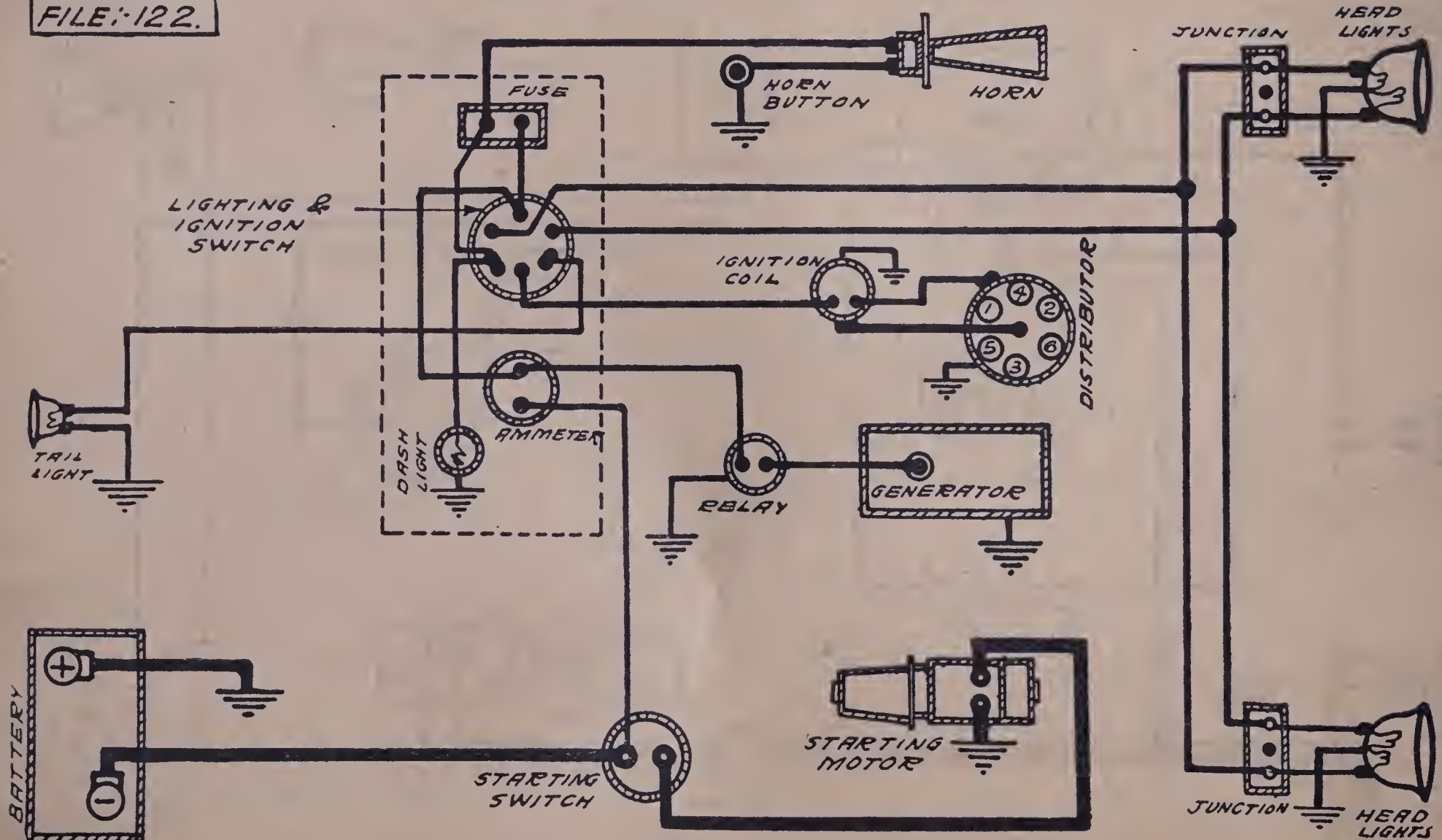
GRANT

1918-1919.

MODEL G-6.

6-VOLT, WAGNER SYSTEM.

FILE: 122.



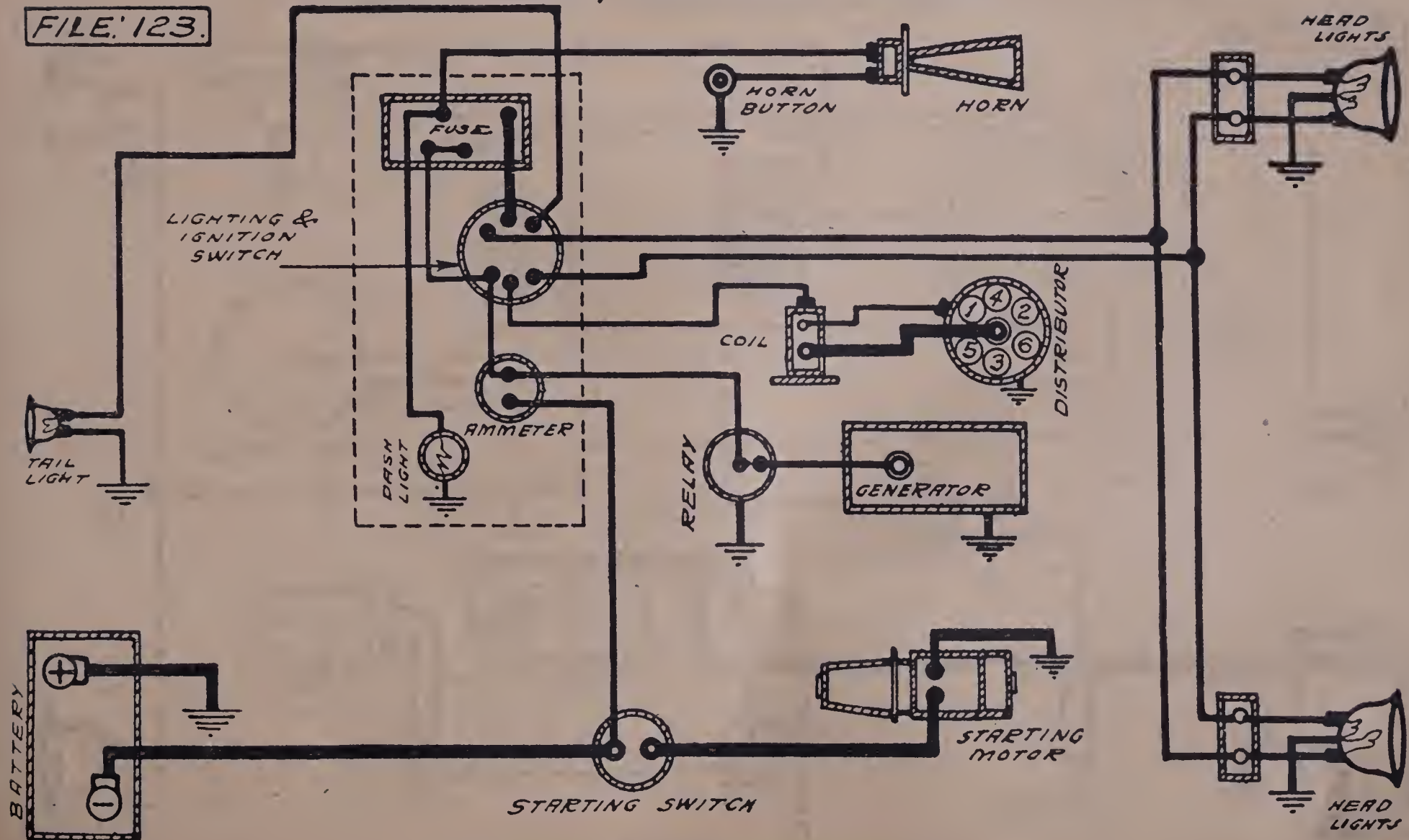
GRANT

1919,-1920

MODEL H

6-VOLT,-WAGNER SYSTEM.

FILE 123.



HAL

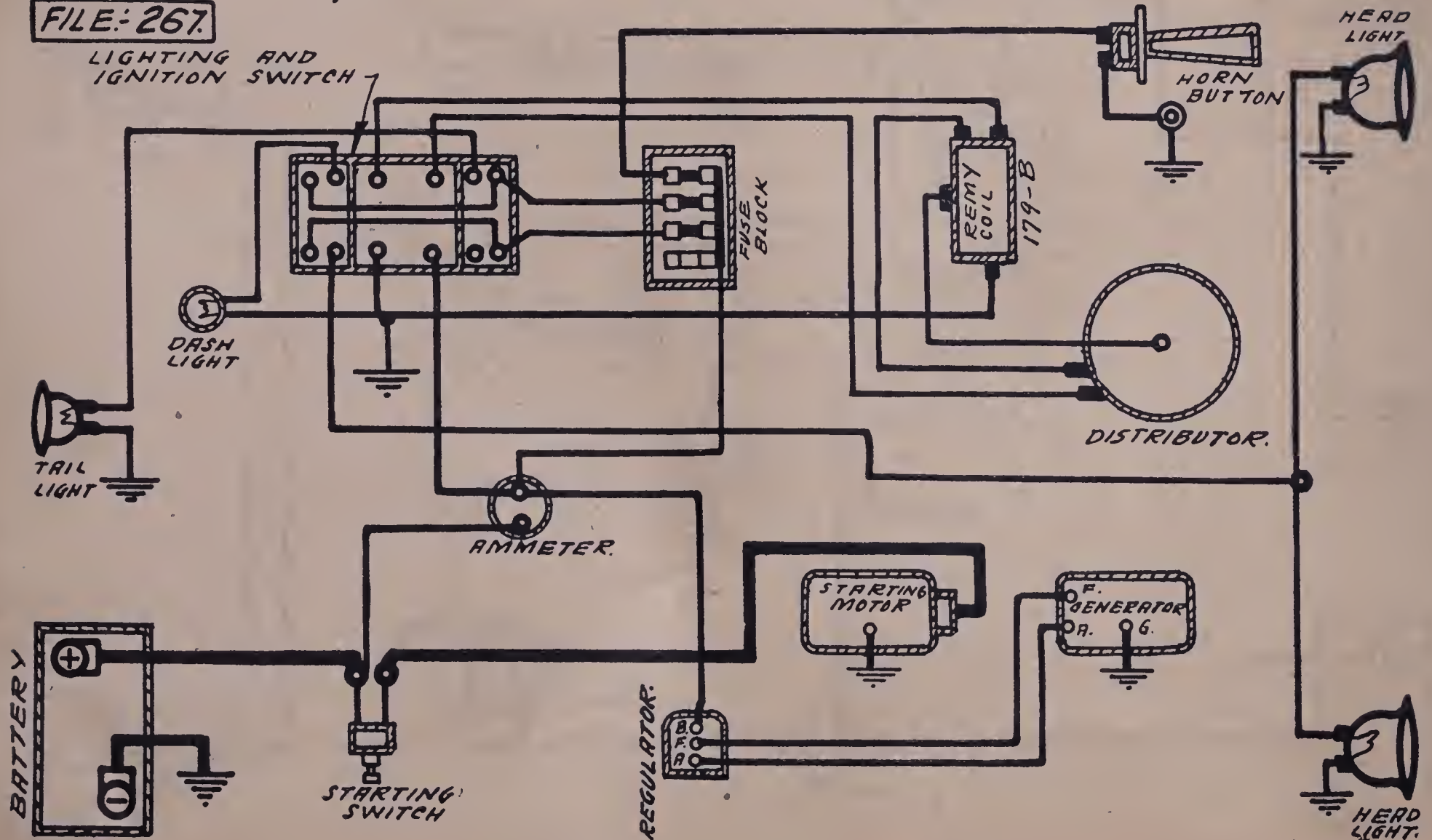
1916-1917.

6-VOLT, WESTINGHOUSE SYSTEM.

MODELS 21, 21-A, 21-B
REMY IGNITION.-

FILE: 267.

LIGHTING AND
IGNITION SWITCH

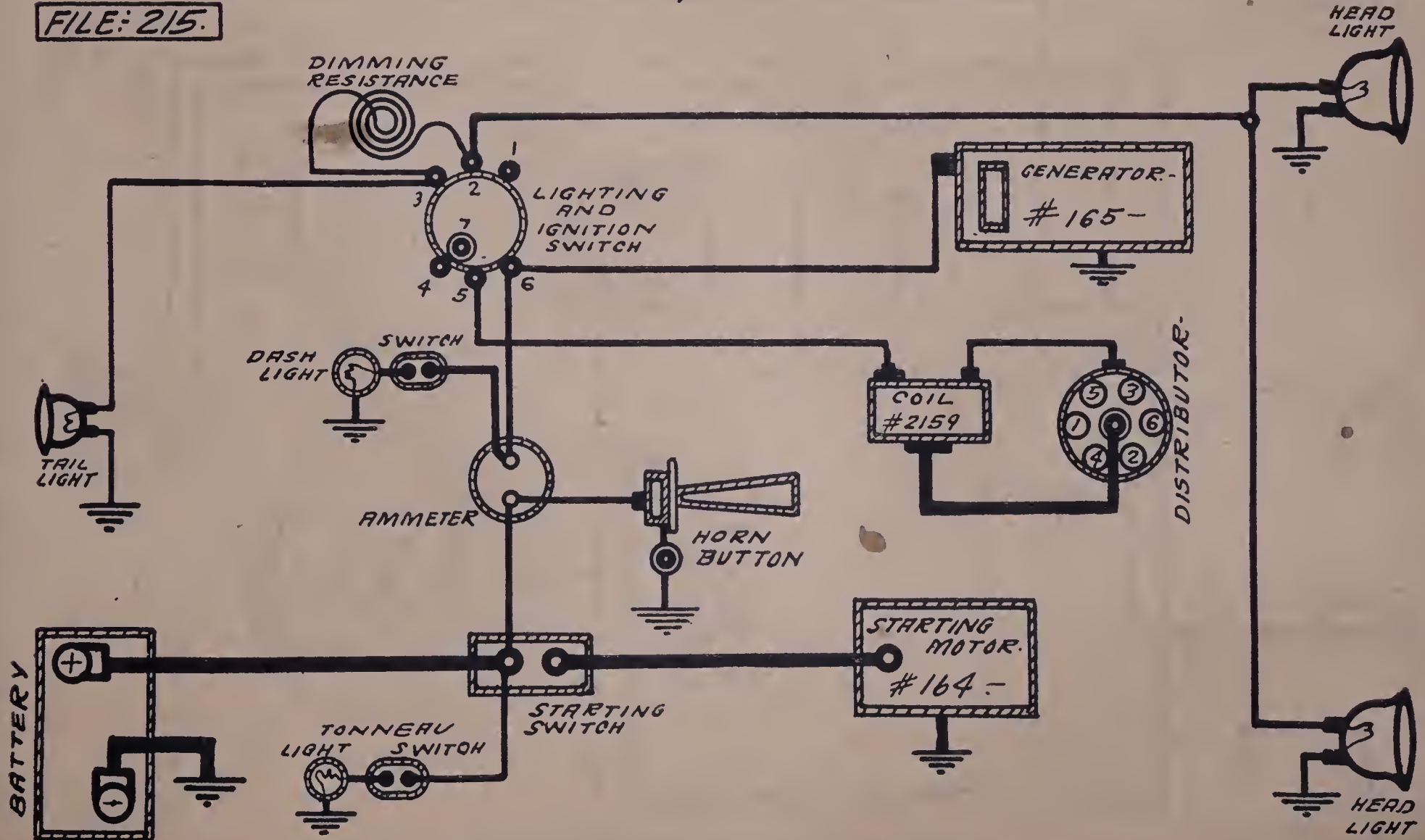


HANSON

1920.

MODEL 54
6-VOLT, - DELCO SYSTEM.

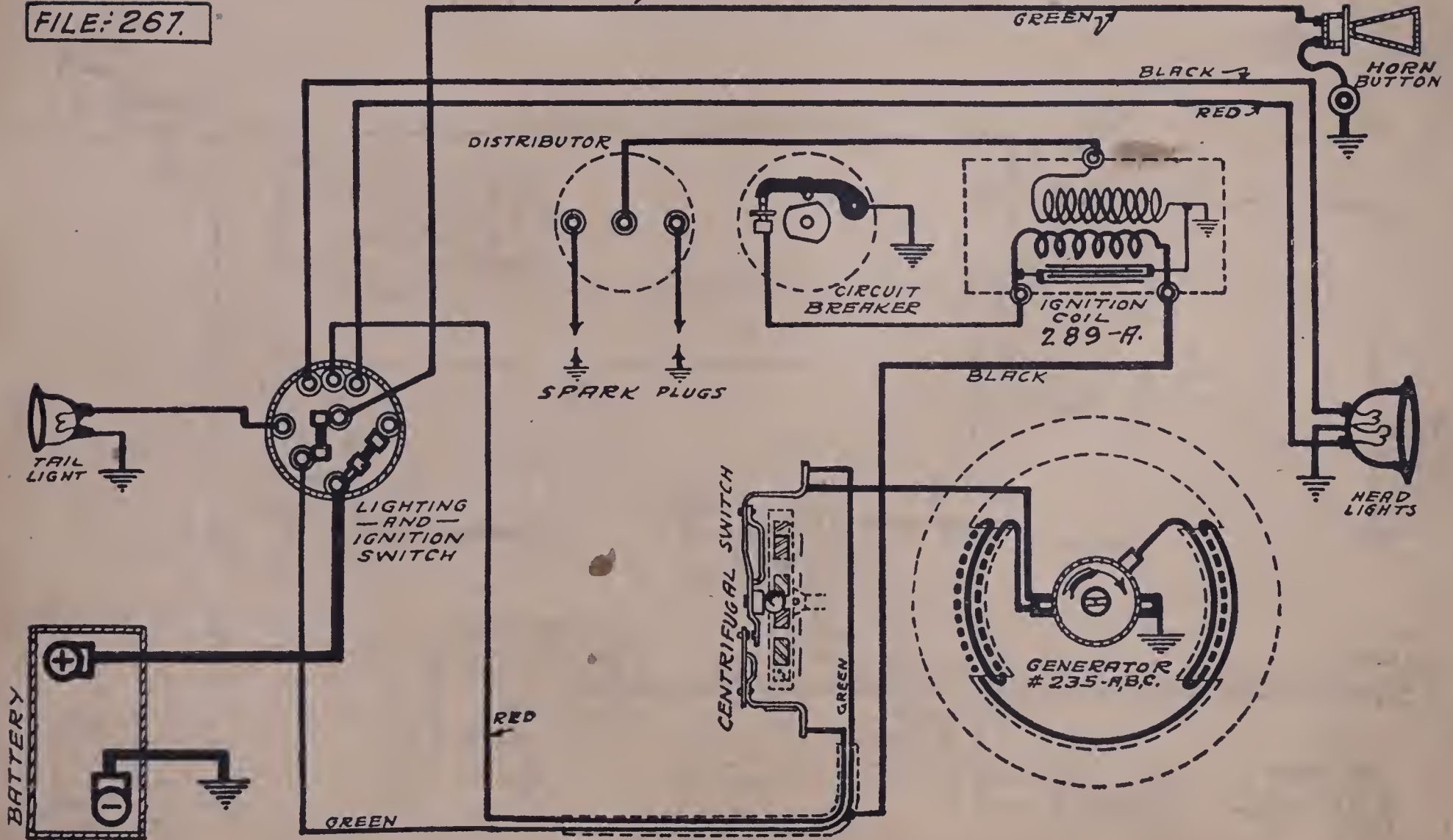
FILE: 215.



HARLEY-DAVIDSON MOTORCYCLE

MODEL 18-J.
6-VOLT, REMY SYSTEM.

FILE: 267.

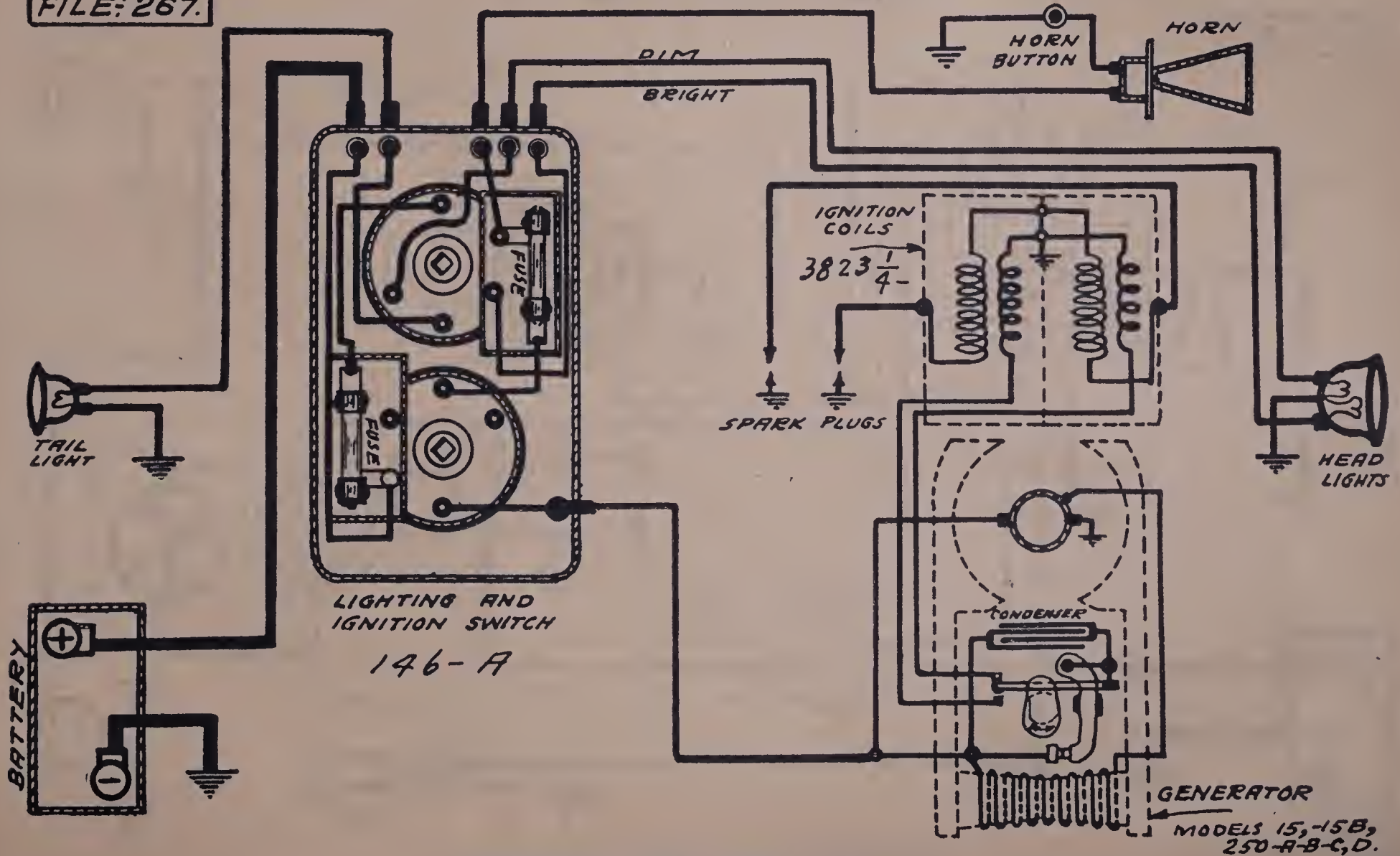


HARLEY-DAVIDSON-MOTORCYCLE

MODELS: 11-J, 16-J, 17-J.

6-VOLT, -REMY SYSTEM

FILE: 267.



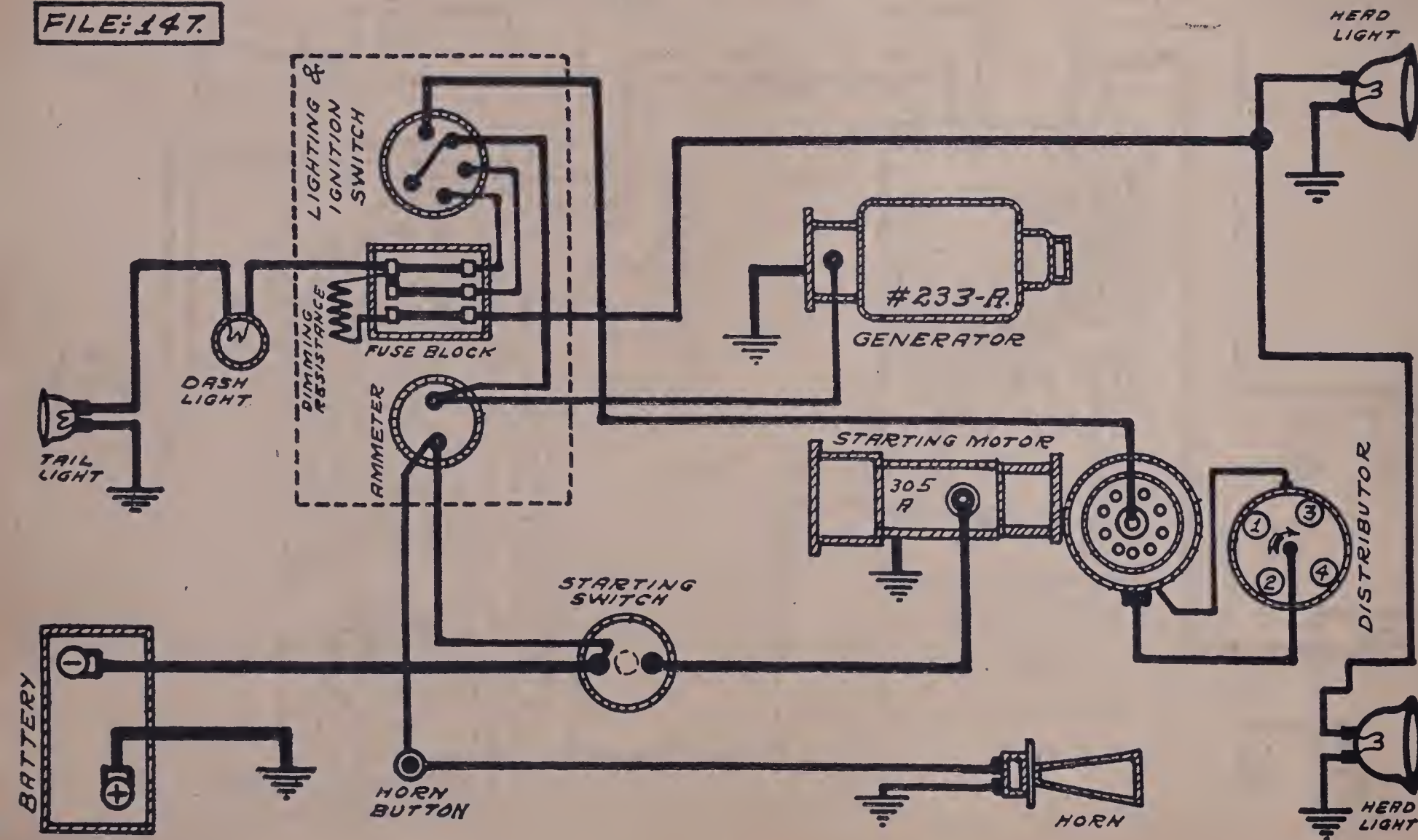
HARROUN

1917-1918-1919

MODEL AA-1

6-VOLT, REMY SYSTEM.

FILE: 147.

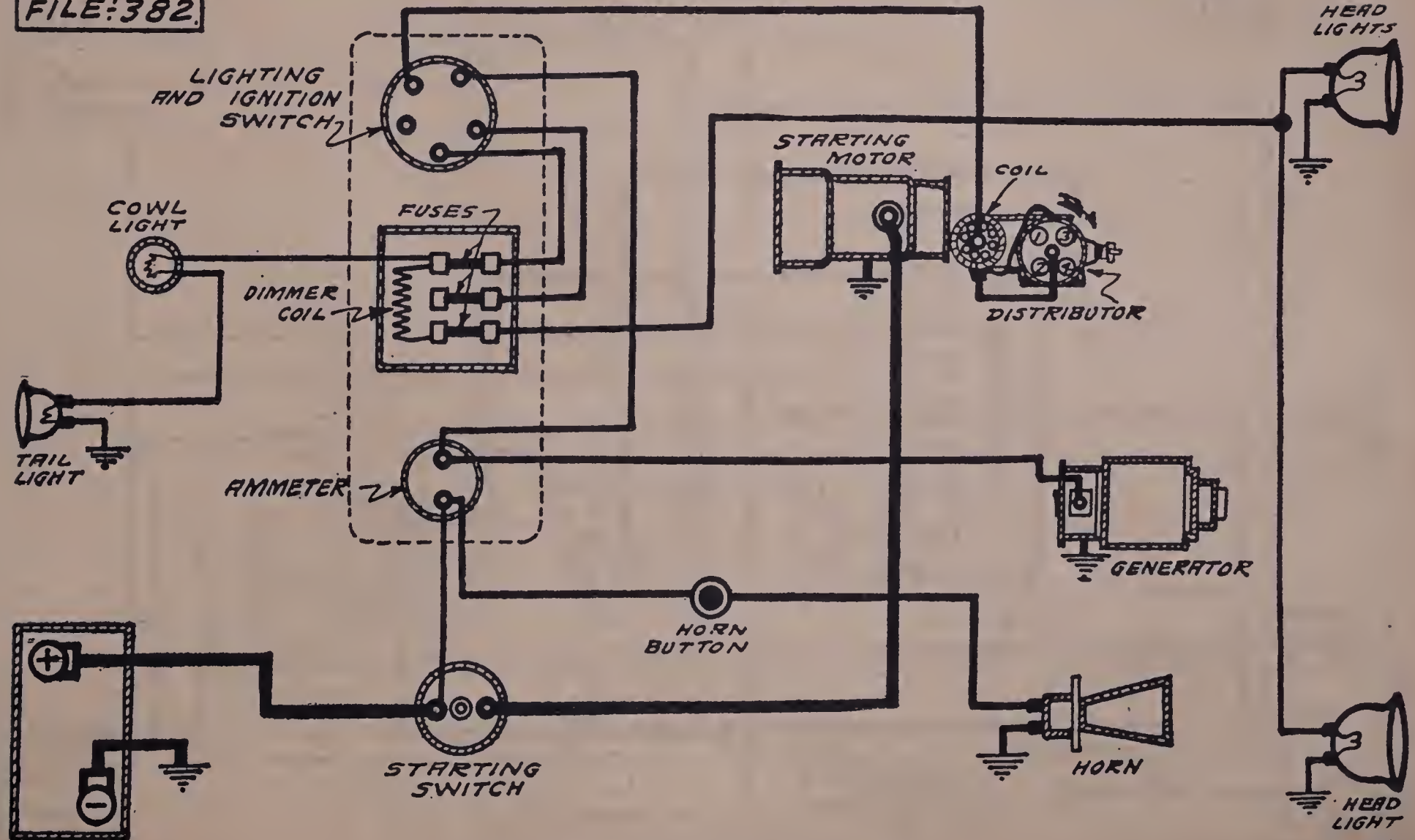


HARROUN

1920 MODELS

6-VOLT, REMY SYSTEM. = ATWATER KENT IGNITION.

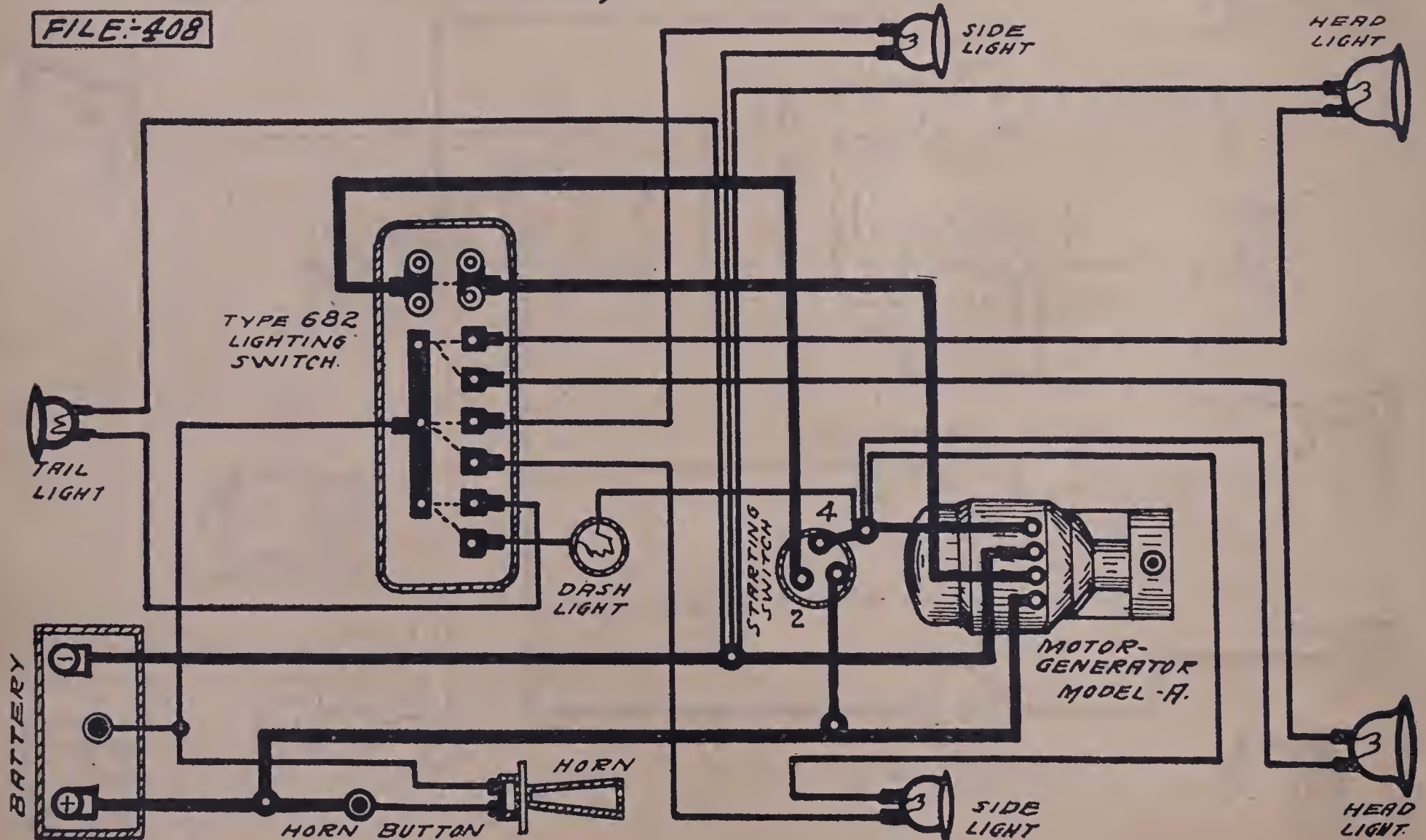
FILE:382.



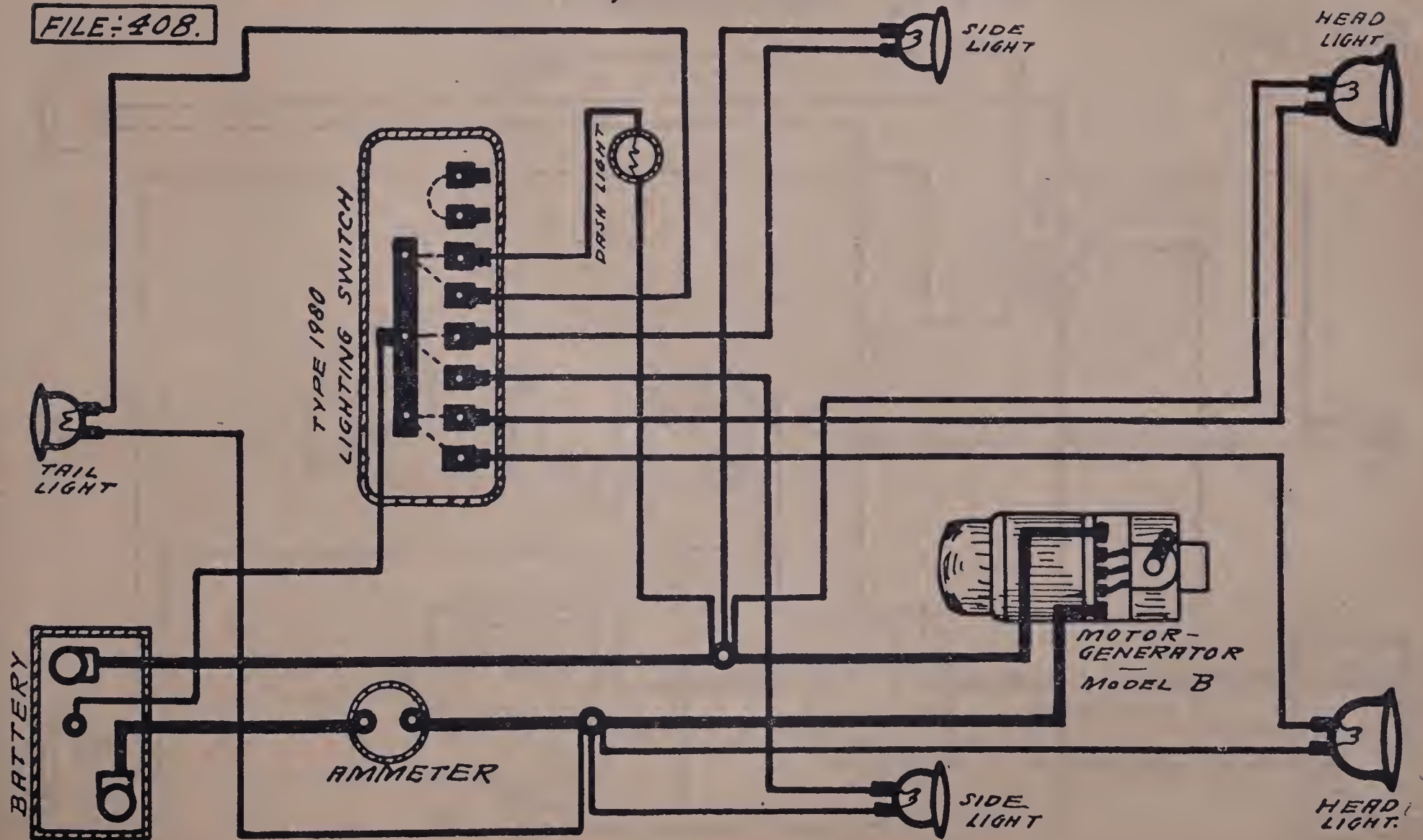
HIVERS

1913 MODEL.
16-VOLT, NORTH EAST SYSTEM.

FILE:408



H A V E R S
1914 MODEL
16-VOLT, - NORTHEAST SYSTEM.



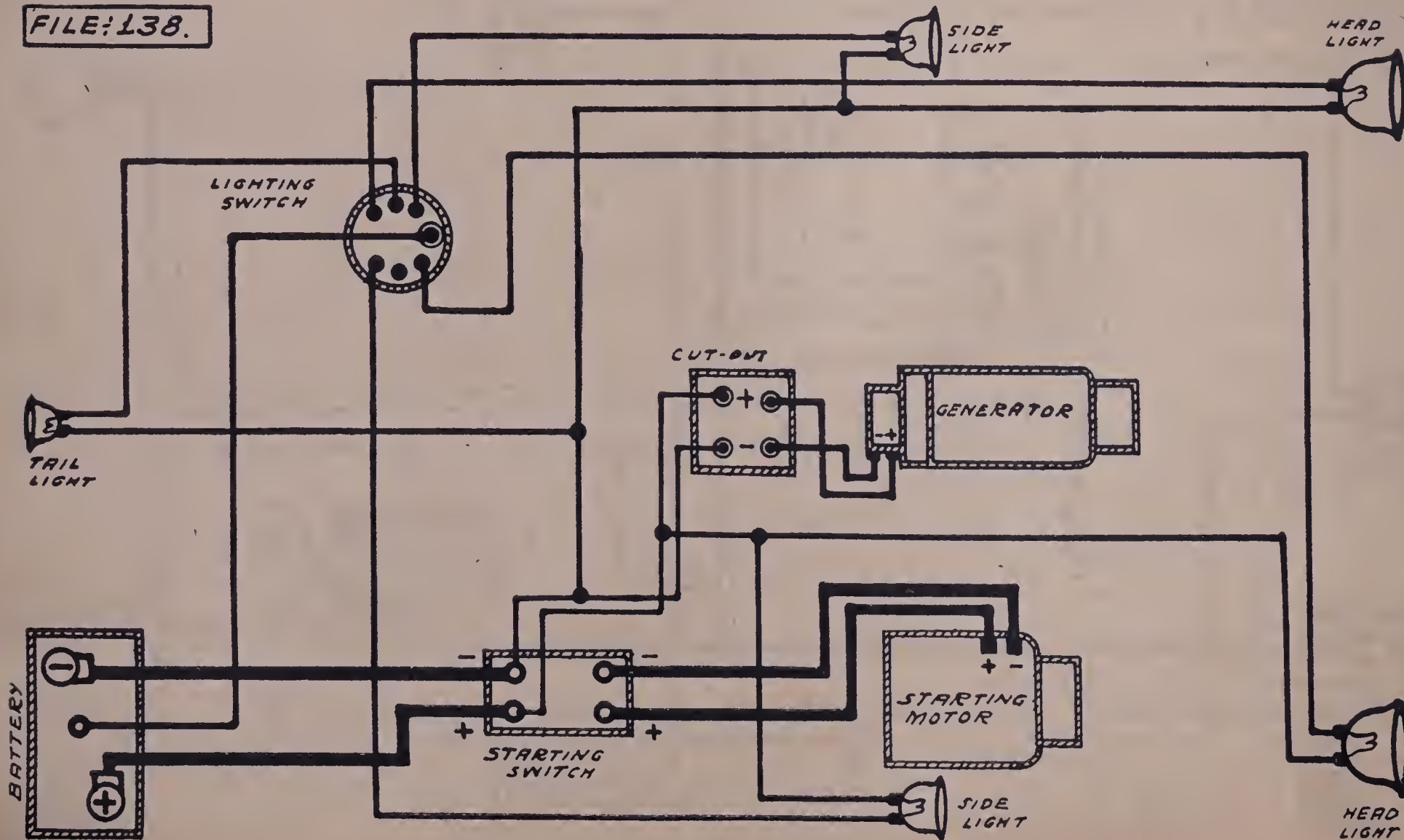
HAYNES

1912-1913

MODEL-21,22,23,24,25.

12-VOLT, LEECE-NEVILLE SYSTEM.

FILE: 138.



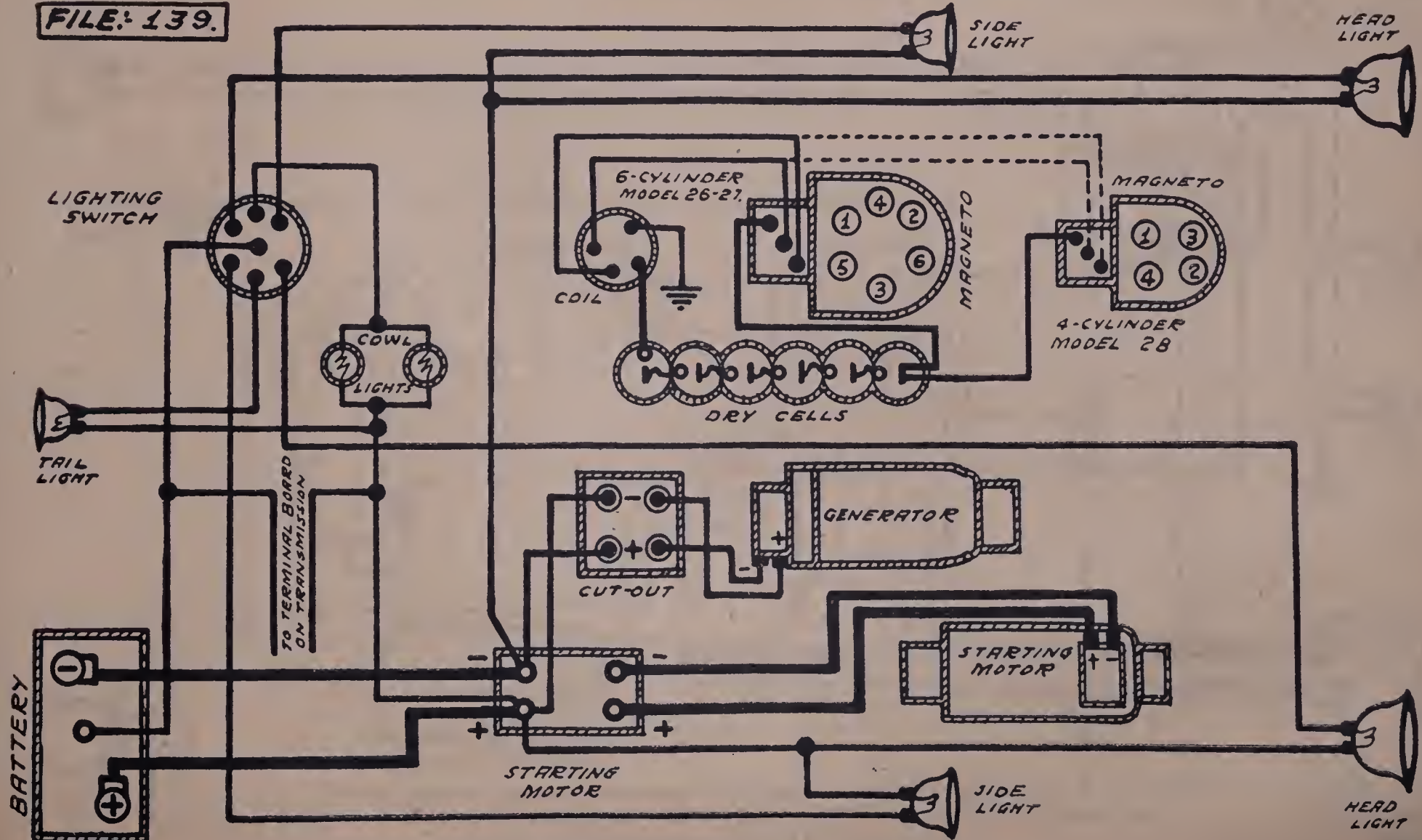
HAYNES

1914

MODEL 26;28;27.

12-VOLT, LEECE-NEVILLE SYSTEM.

FILE: 139.



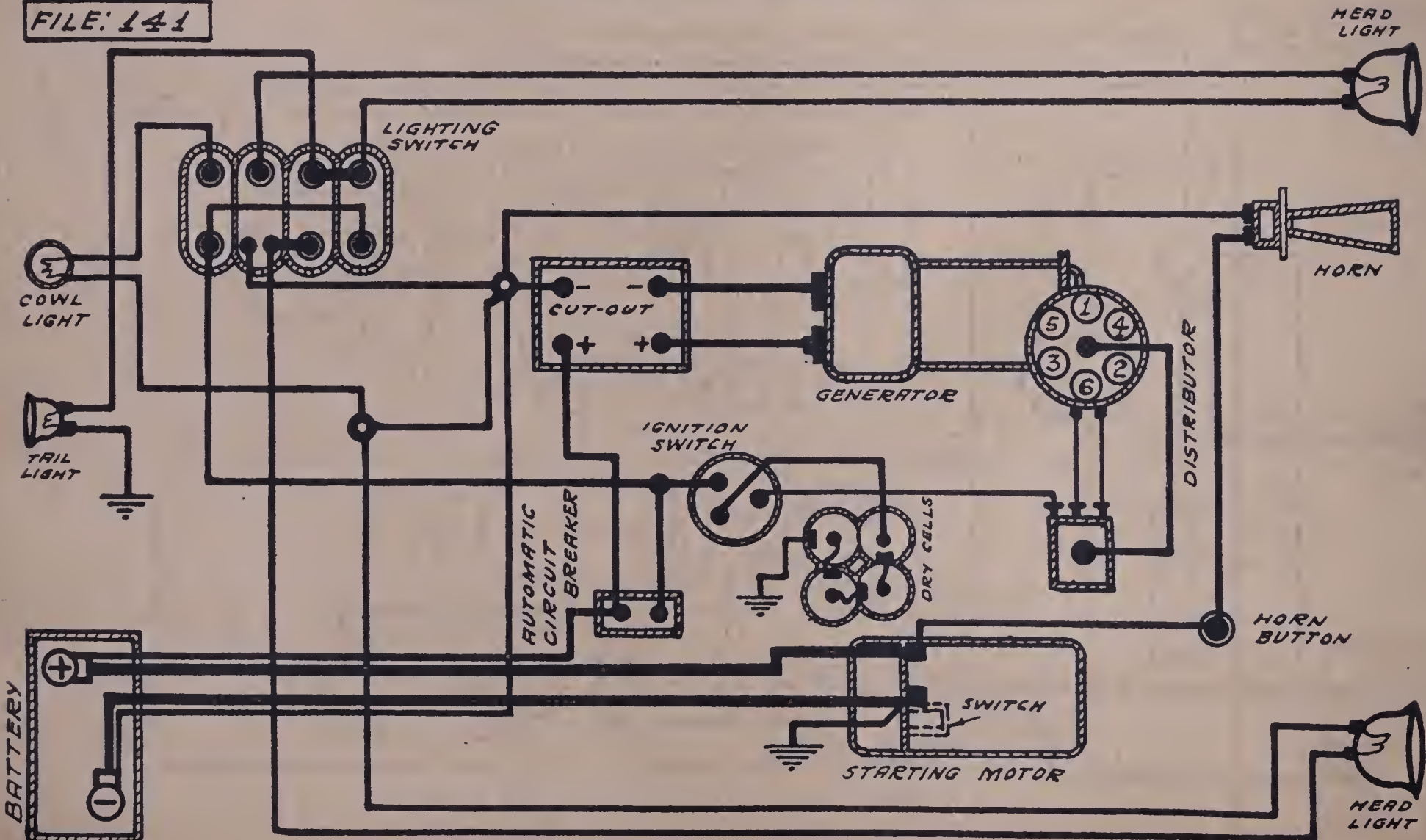
HAYNES

1915-1916.

MODEL 34,-35.

6-VOLT,-LEECE-NEVILLE SYSTEM.

FILE: 141

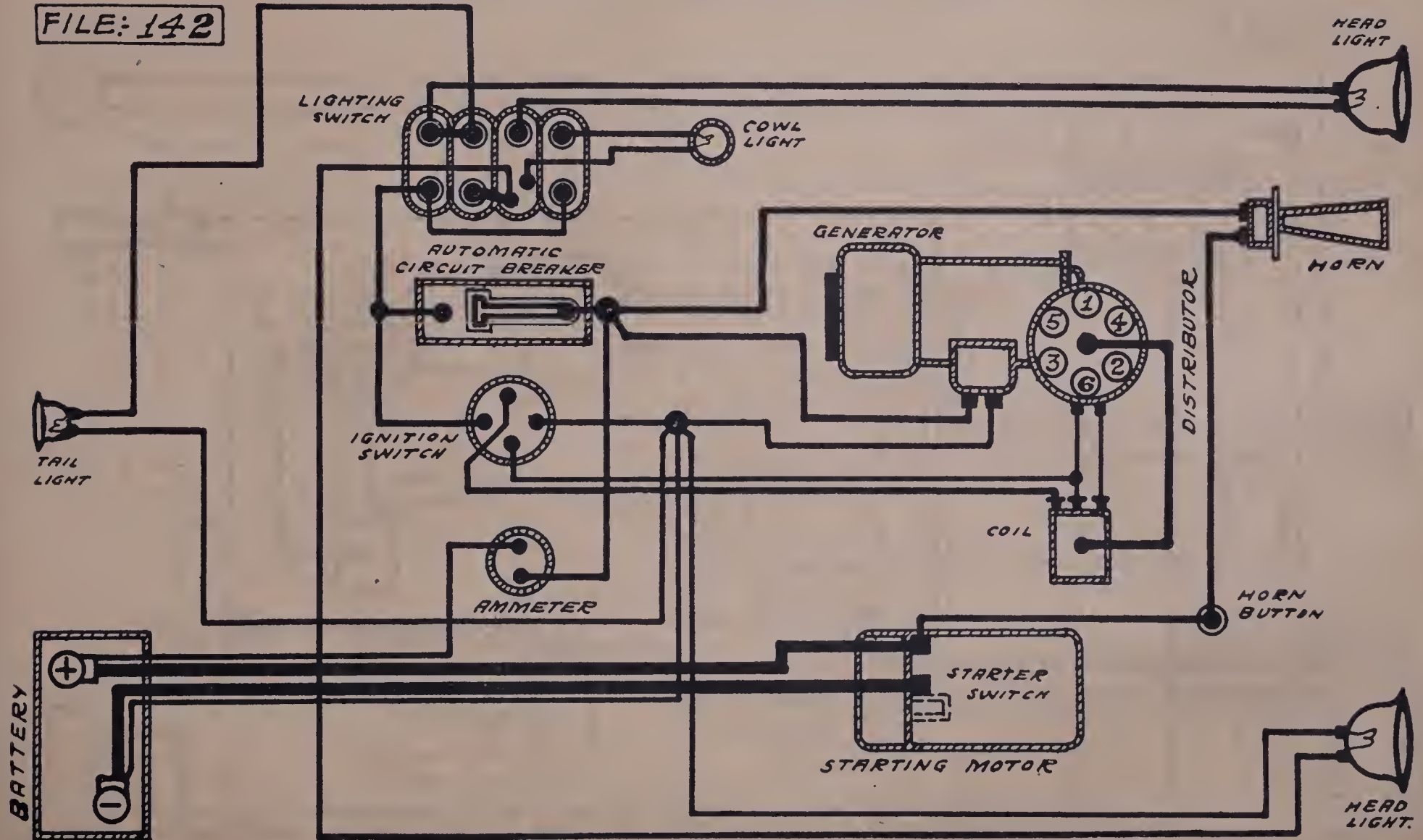


HAYNES

1916-1917-1918.

MODEL 36, 36-R, 37, 38, 39, 39R.

6-VOLT, -LEECE-NEVILLE SYSTEM.



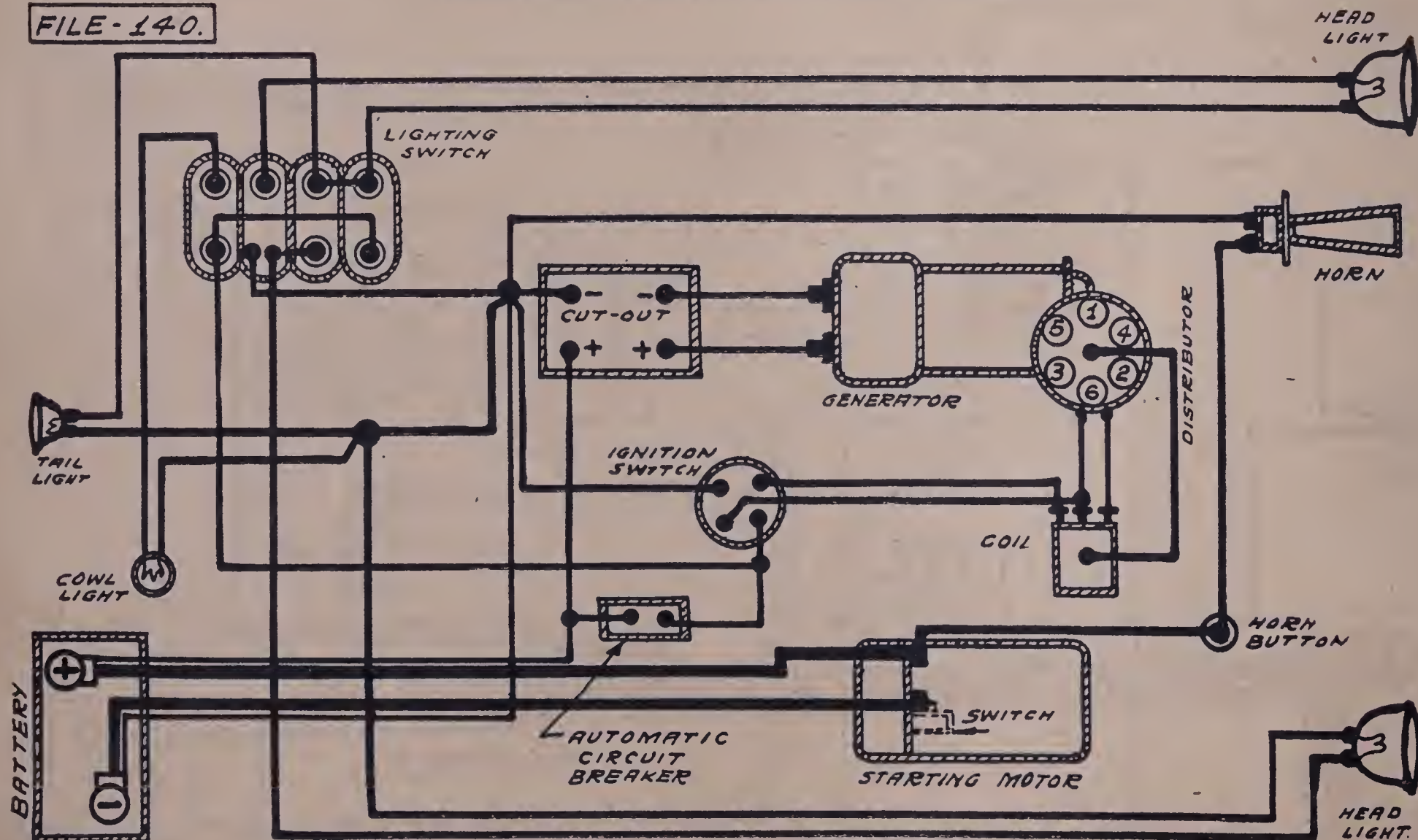
HAYNES

1916

MODELS 34, 34-R, 35.

6-VOLT, LEECE-NEVILLE SYSTEM.

FILE-140.



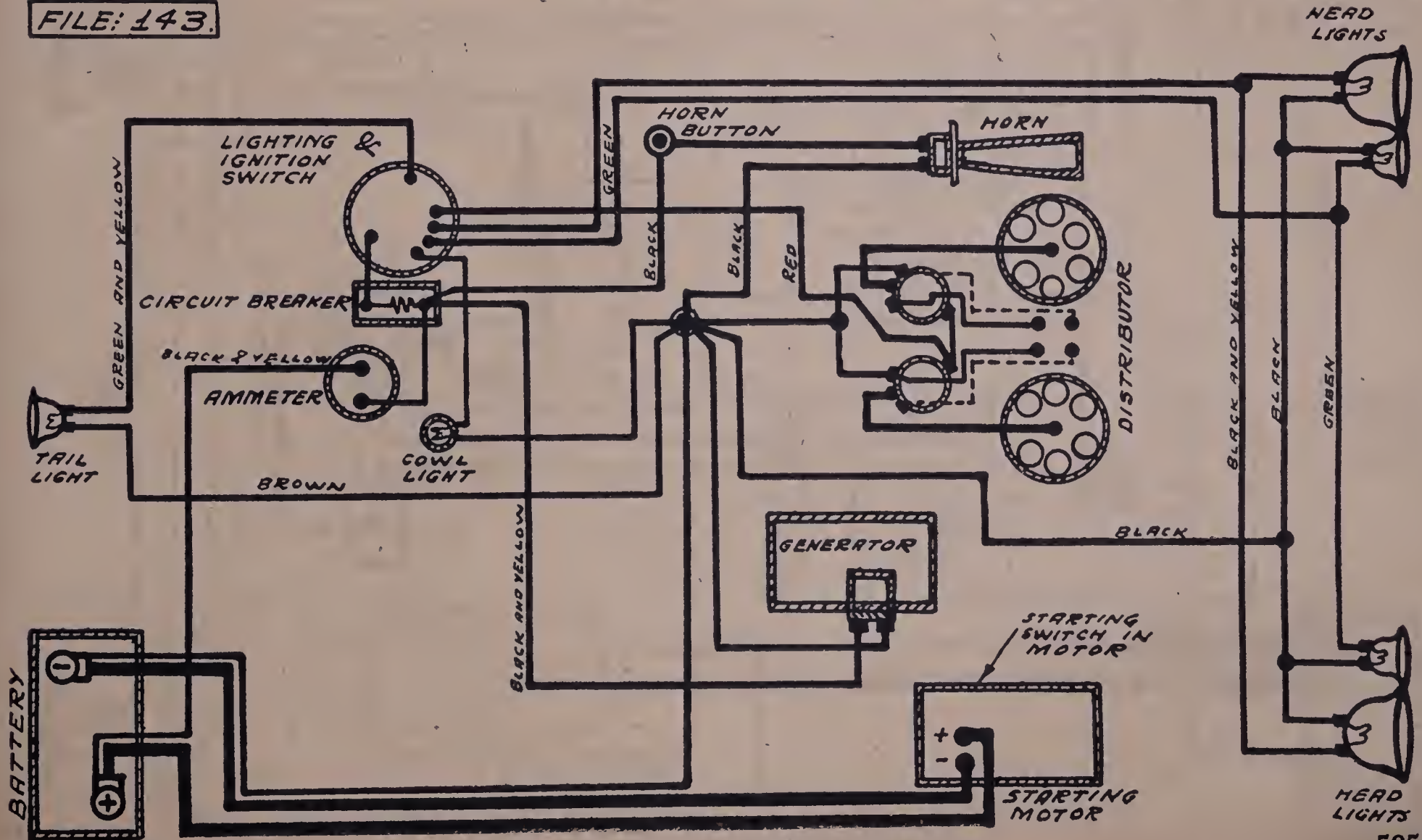
HAYNES

1917-1918.

MODEL-40, 40R, 41.

6-VOLT, LEECE-NEVILLE SYSTEM.

FILE: 143.



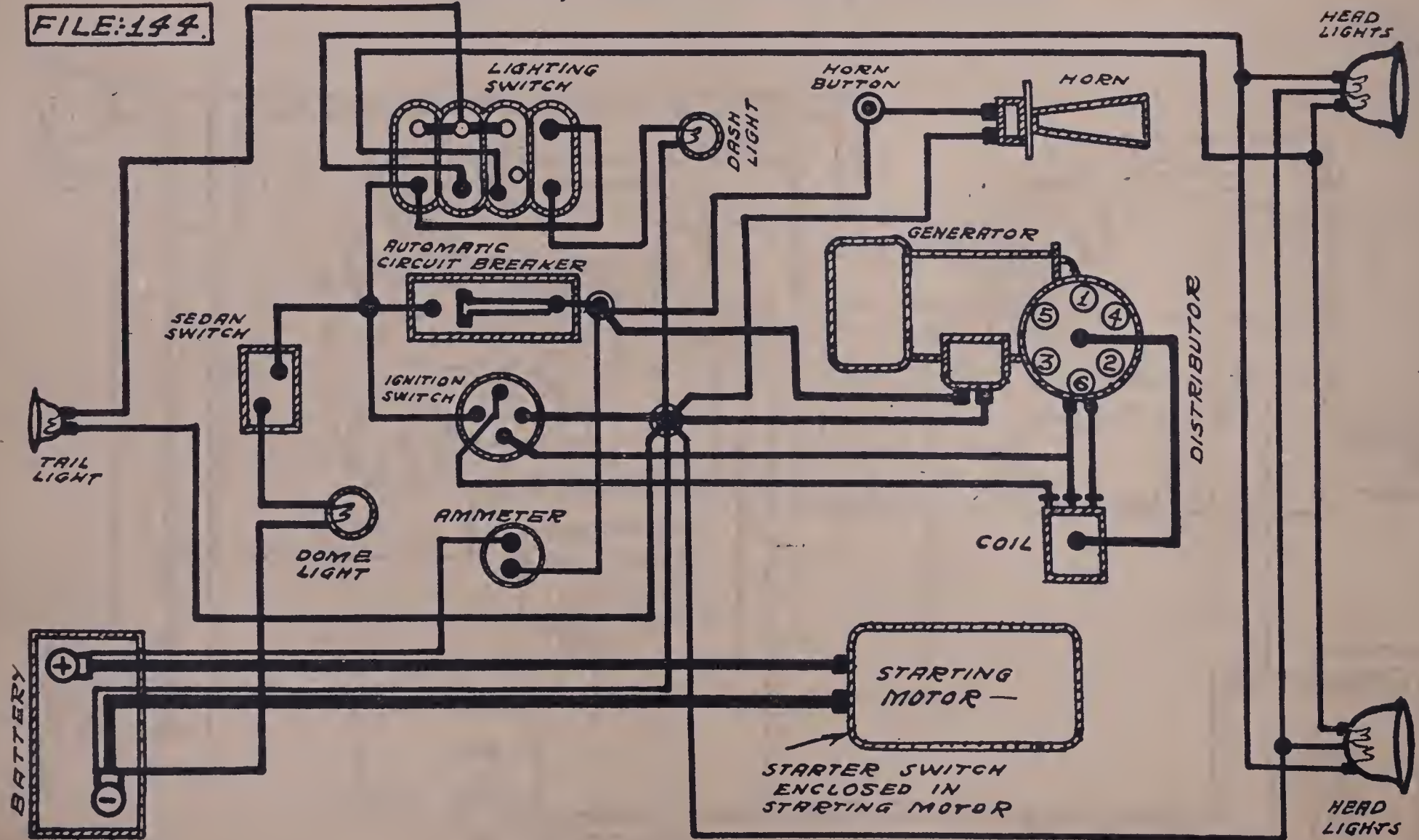
HAYNES

1918

MODEL 39-S, SEDAN

6-VOLT, - LEECE-NEVILLE SYSTEM.

FILE:144.

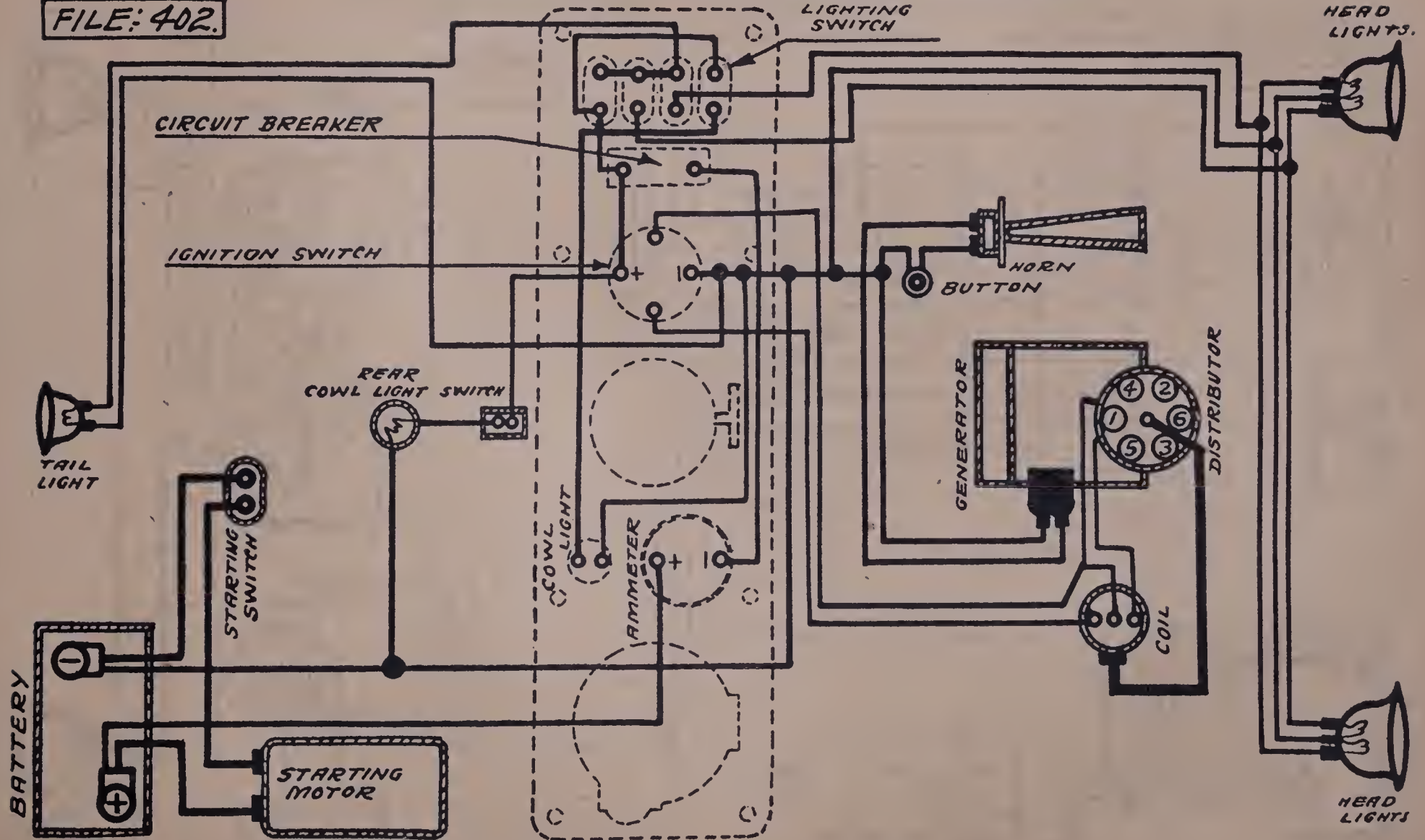


HAYNES

1919

MODEL 45.-
6-VOLT, - LEECE-NEVILLE SYSTEM.

FILE: 402.



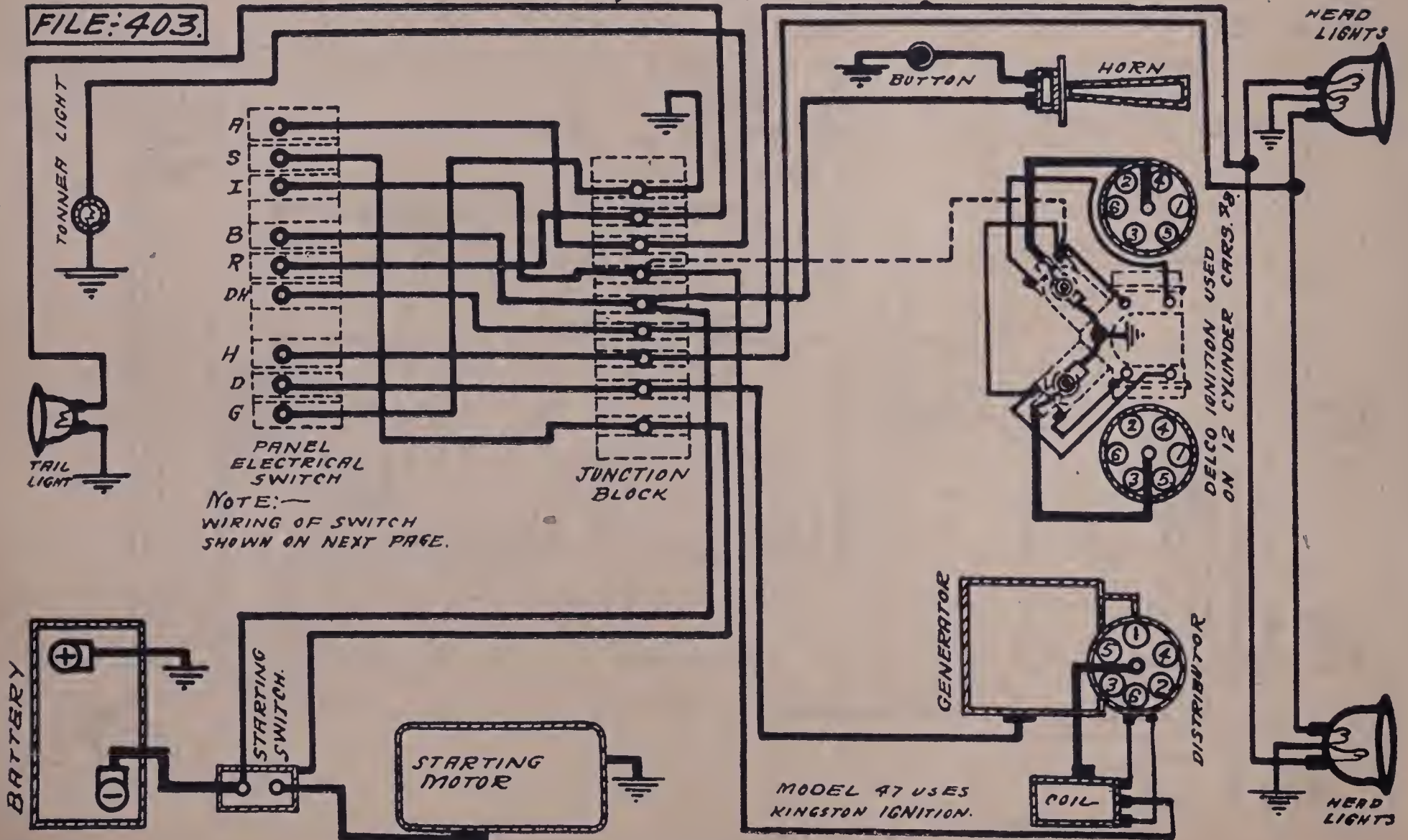
HAYNES

1920

MODELS 47, 48.

6-VOLT, LEECE-NEVILLE SYSTEM.

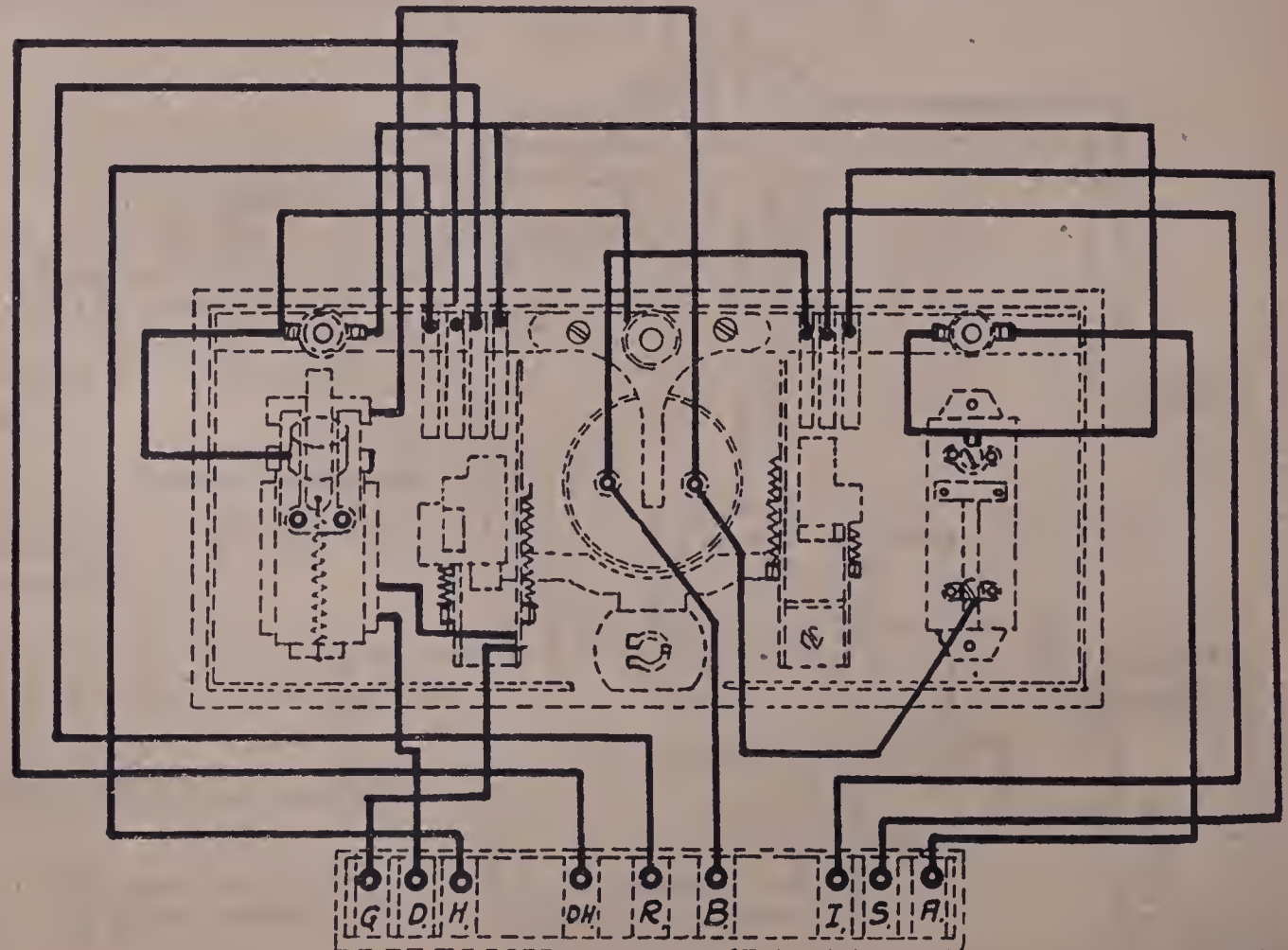
FILE: 403.



HAYNES

WIRING DIAGRAM OF PANEL ELECTRICAL SWITCH
USED ON ALL 1920 MODELS.

FILE: 403.



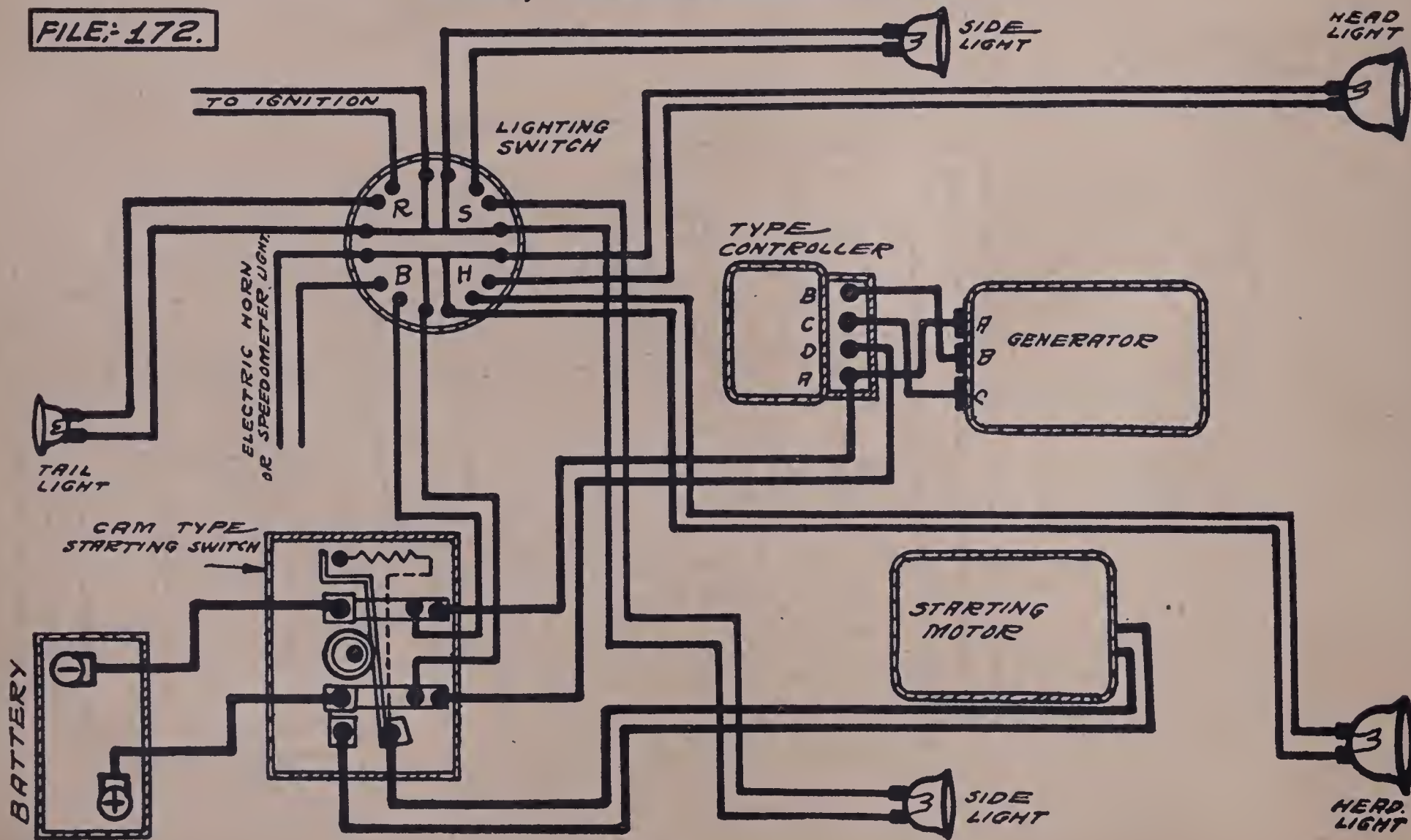
HENDERSON

1914-1915

CAM TYPE STARTER SWITCH.

6-VOLT, WARD-LEONARD SYSTEM.

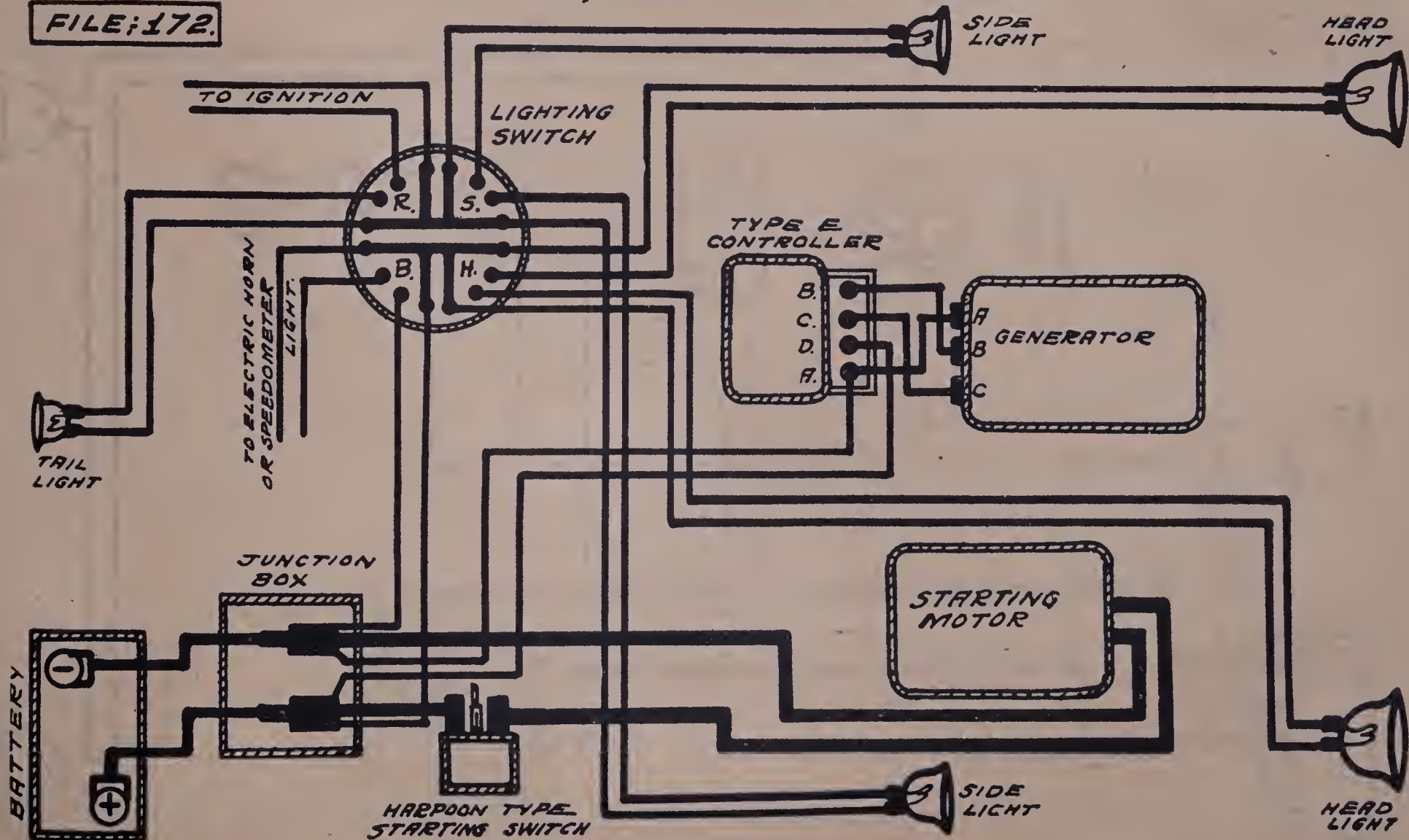
FILE: 172.



HENDERSON

1914-1915. HARPOON TYPE STARTING SWITCH
6-VOLT, -WARD-LEONARD SYSTEM.

FILE: 172.



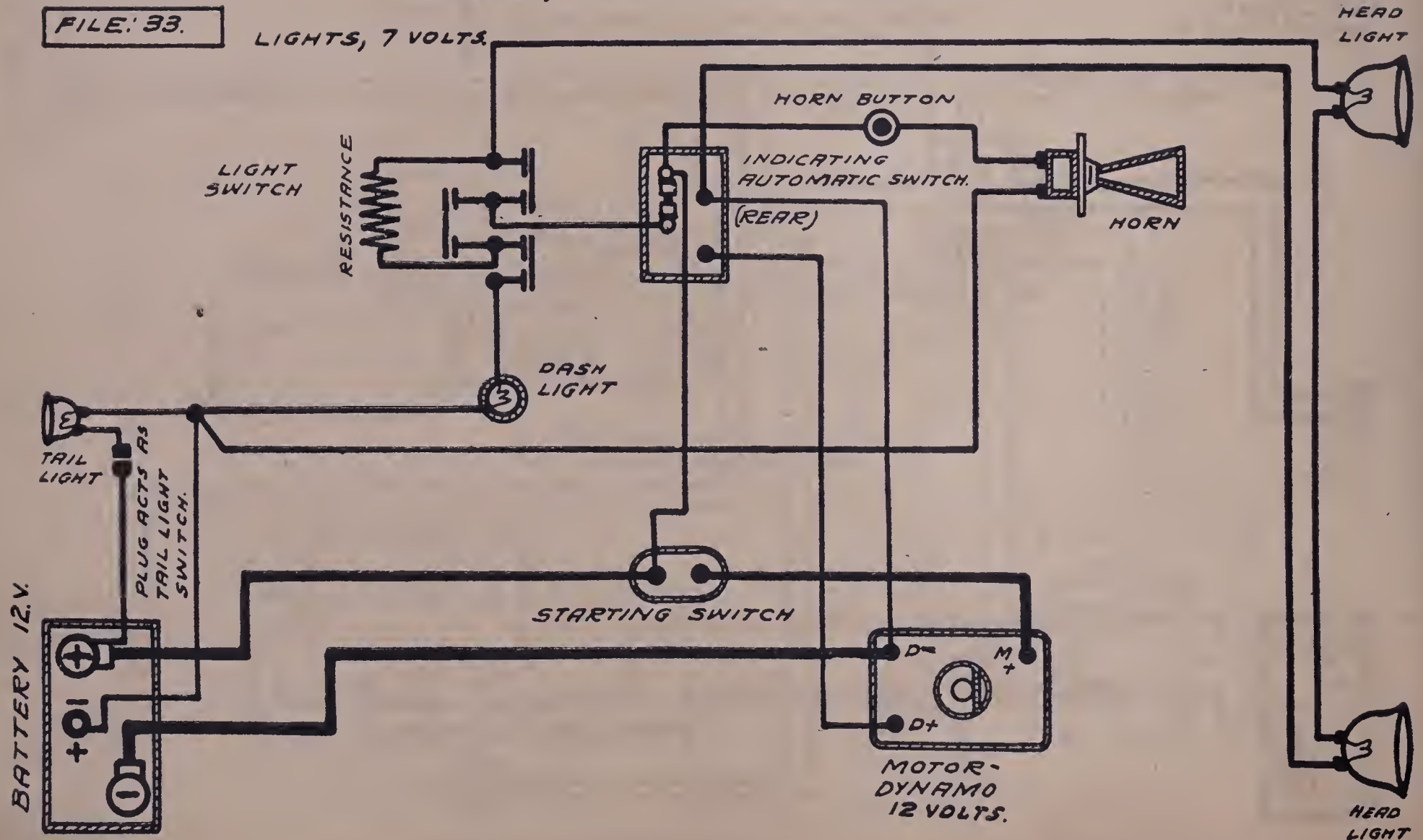
HERFF-BROOKS

1915

12-VOLT, SPLITDORF SYSTEM

FILE: 33.

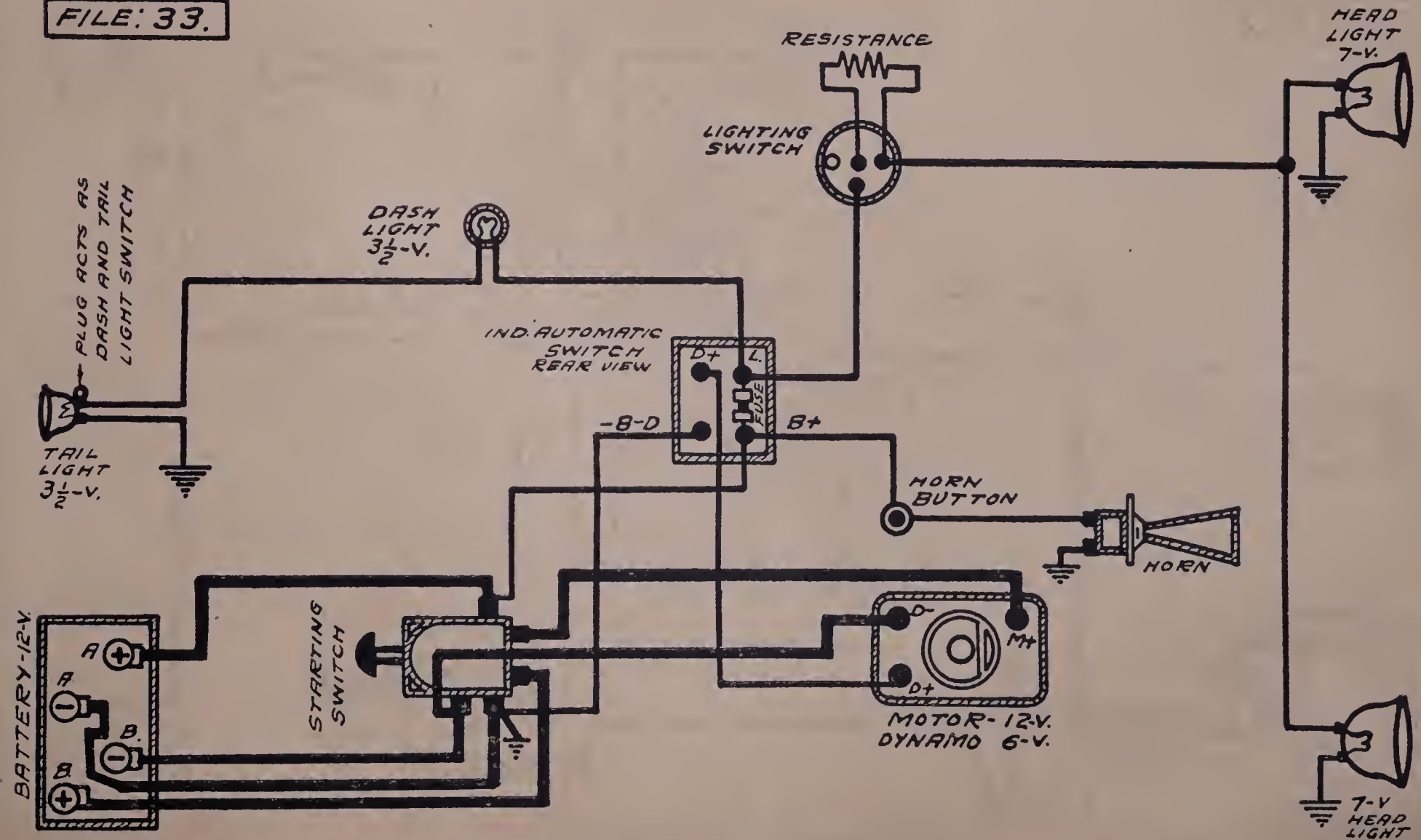
LIGHTS, 7 VOLTS.



HERFF-BROOKS

1916.
12-6-VOLT, SPLITDORF SYSTEM

FILE: 33.



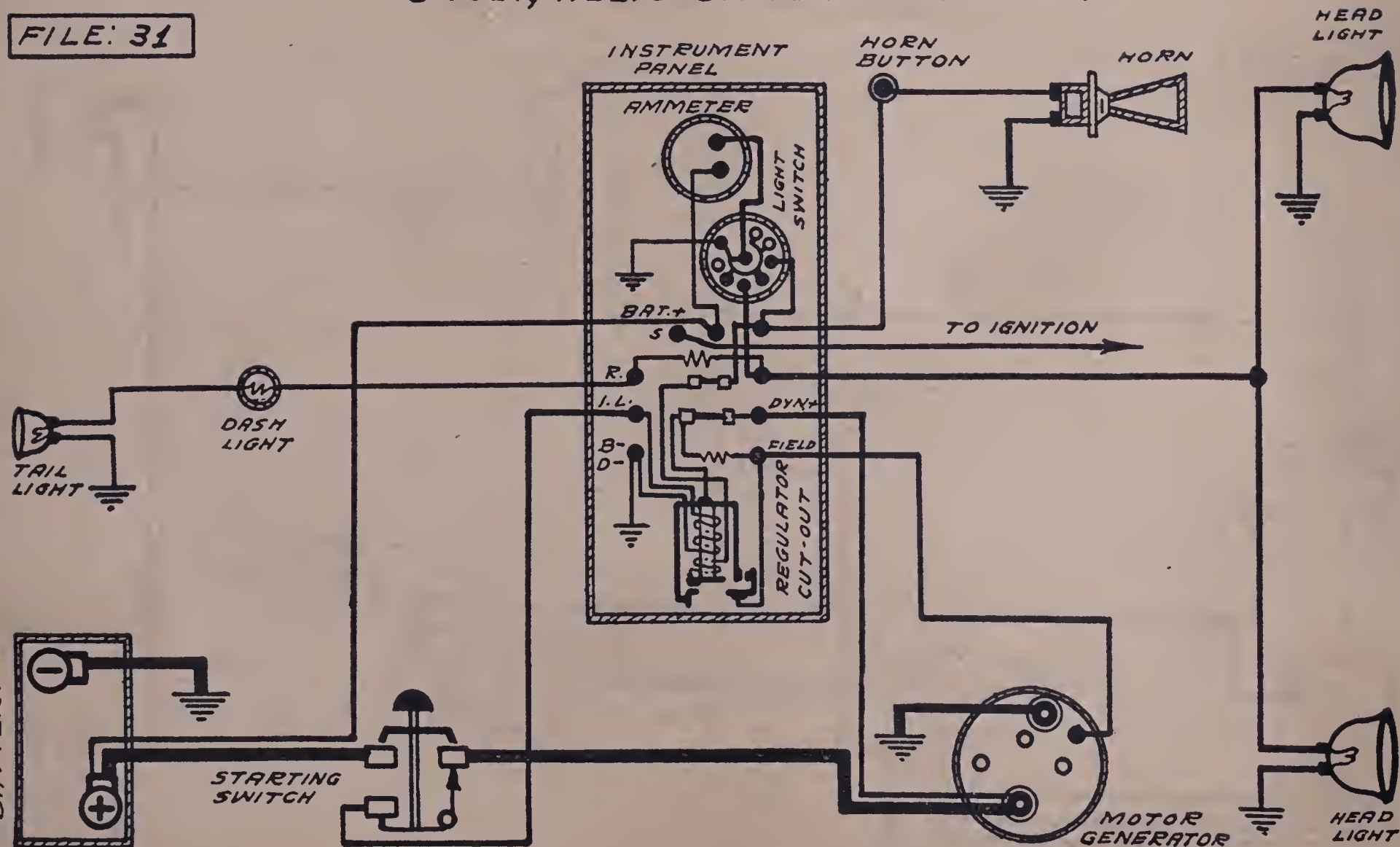
HOLLIER

1917.

MODEL 186

6-VOLT, ALLIS-CHALMERS SYSTEM.

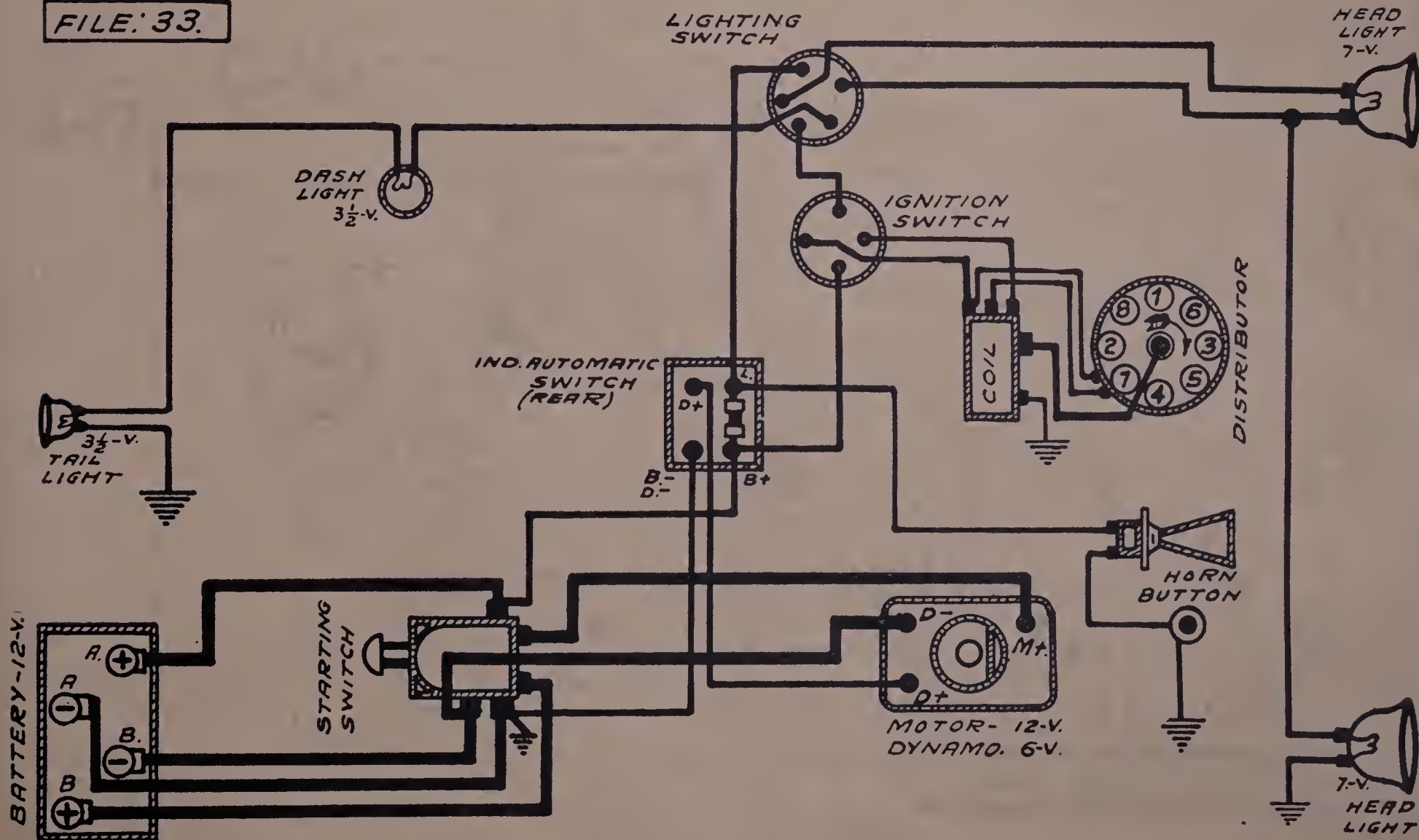
FILE: 31



HOLLIER

1915-MODEL-158, 1916-MOD-168, 1917-MODEL-178, 1918-MODEL-188.
2-6-VOLT, SPLITDORF SYSTEM

FILE: 33.



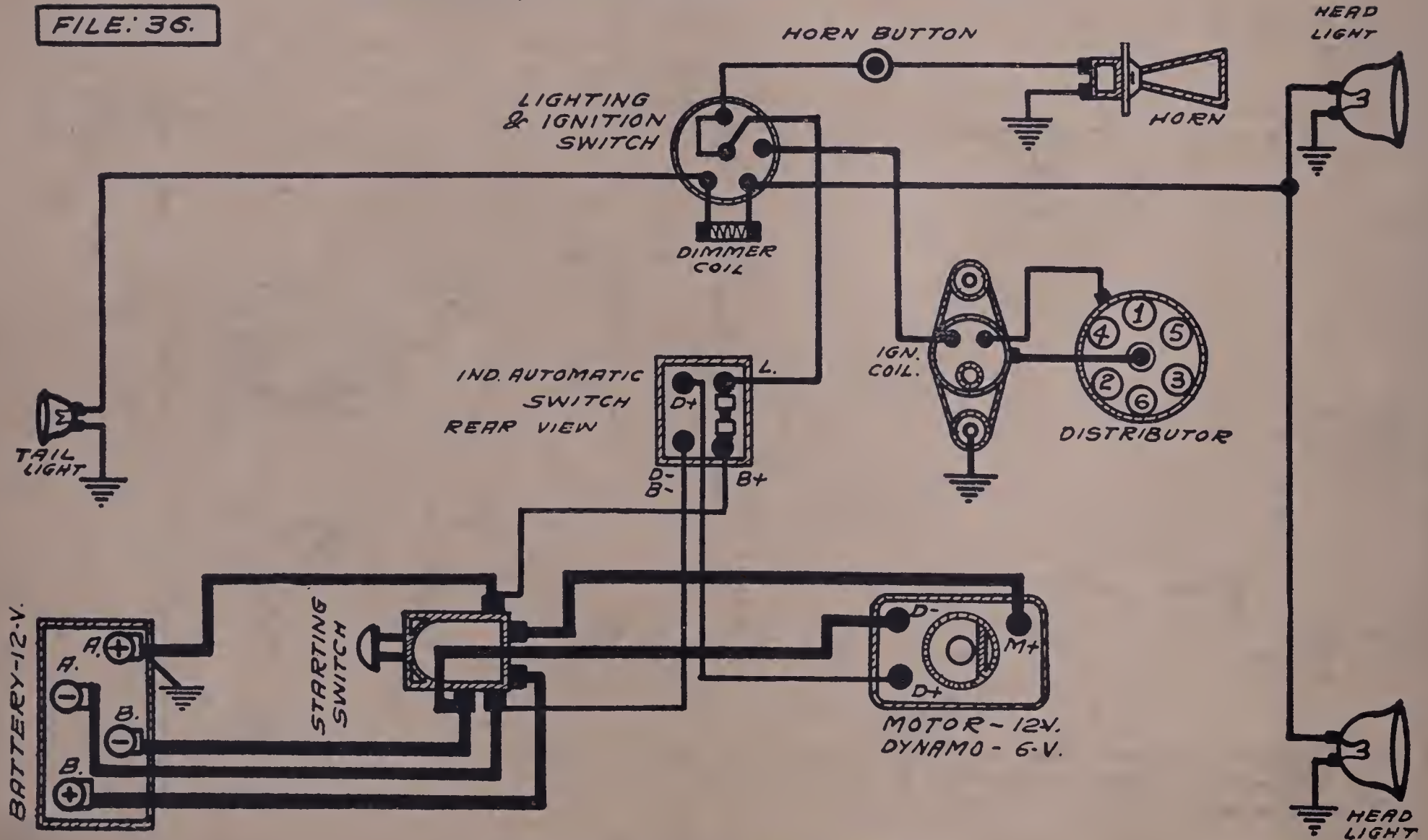
HOLLIER

1919

MODEL-206

12-6-VOLT, SPLITDORF SYSTEM.

FILE: 36.



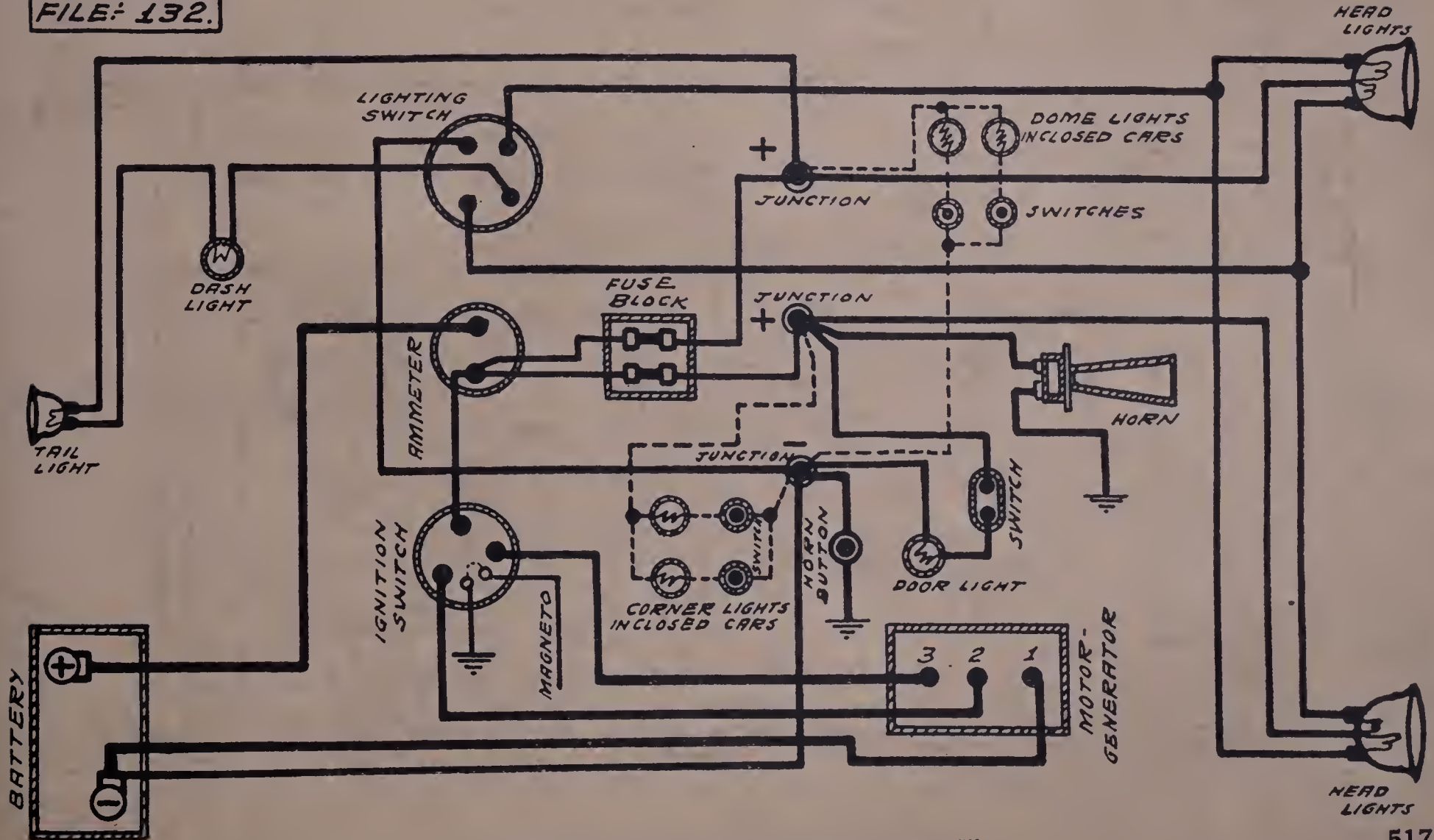
HOLMES

1918

MODEL - 1.

6-VOLT, - DYNETO SYSTEM.

FILE: 132.



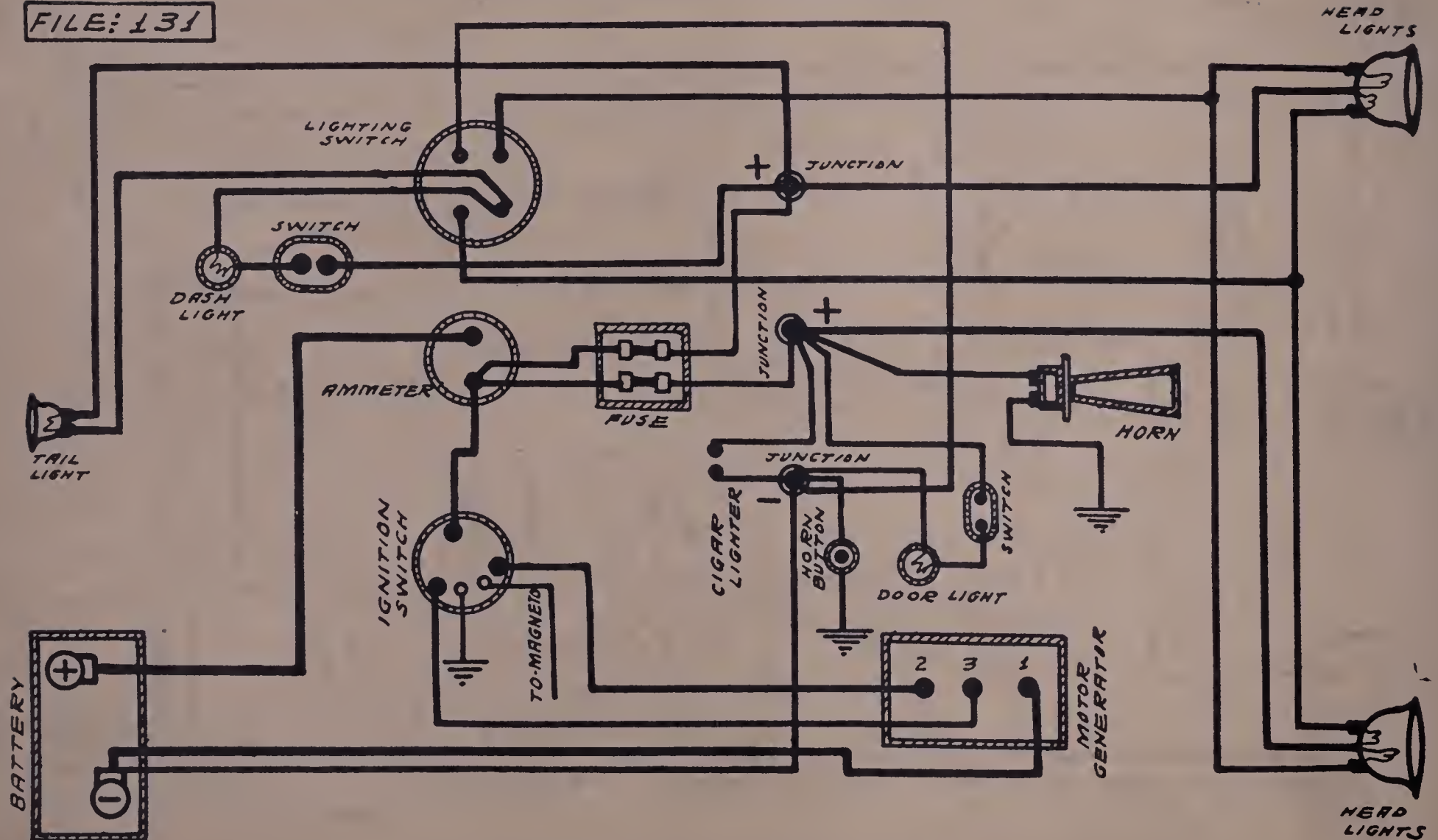
HOLMES

1919, 1920

MODEL - 2, 3

6-VOLT, DYNETO SYSTEM.

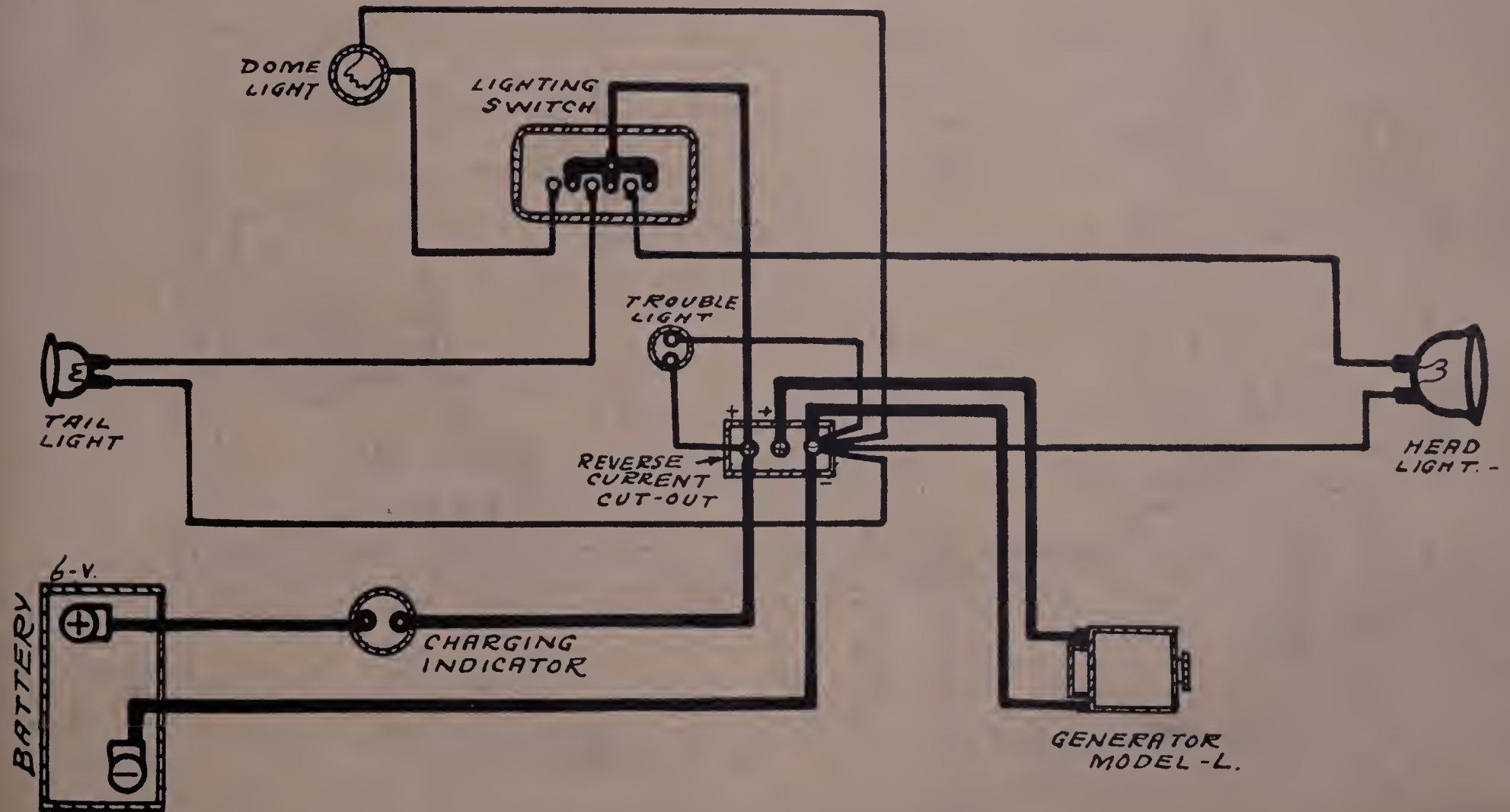
FILE: 131



HOLT CATERPILLAR TRACTOR

6-VOLT, - NORTH EAST SYSTEM.

FILE: 408.



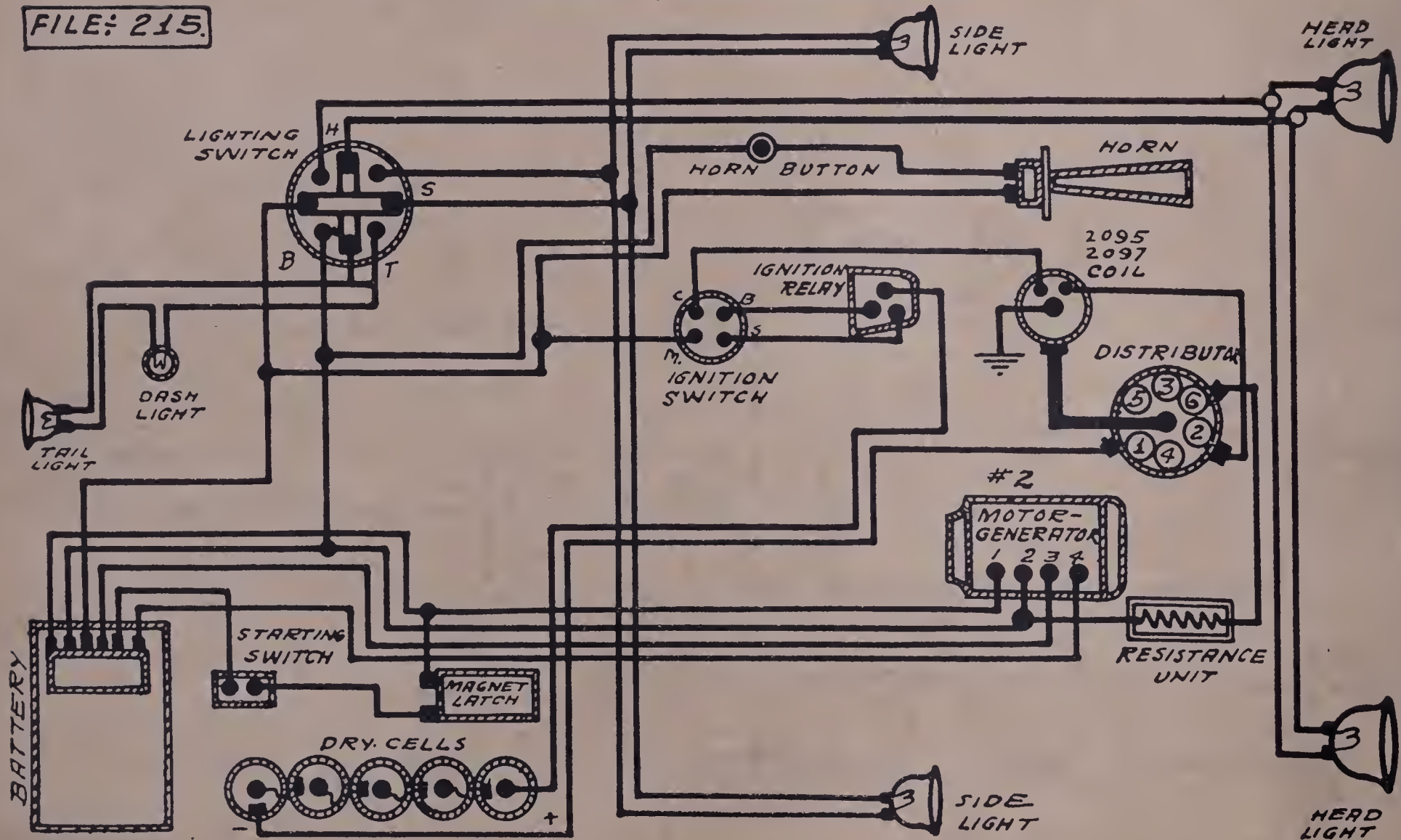
HUDSON

1913

MODELS 54, 37.

6-24 VOLT, DELCO SYSTEM.

FILE: 215.

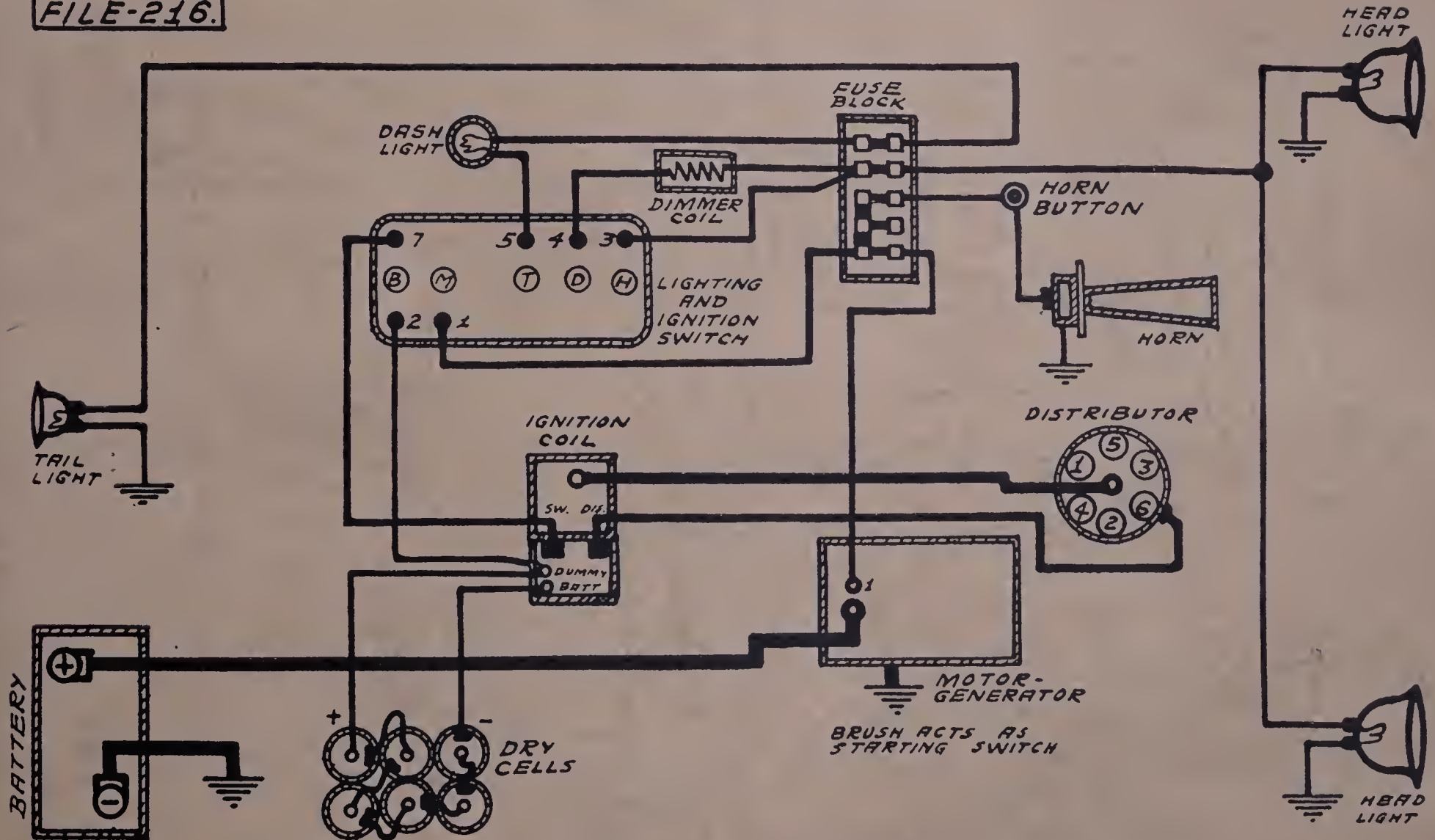


1914

HUDSON

MODEL; SIX-40.
6-VOLT, DELCO SYSTEM.

FILE-216.



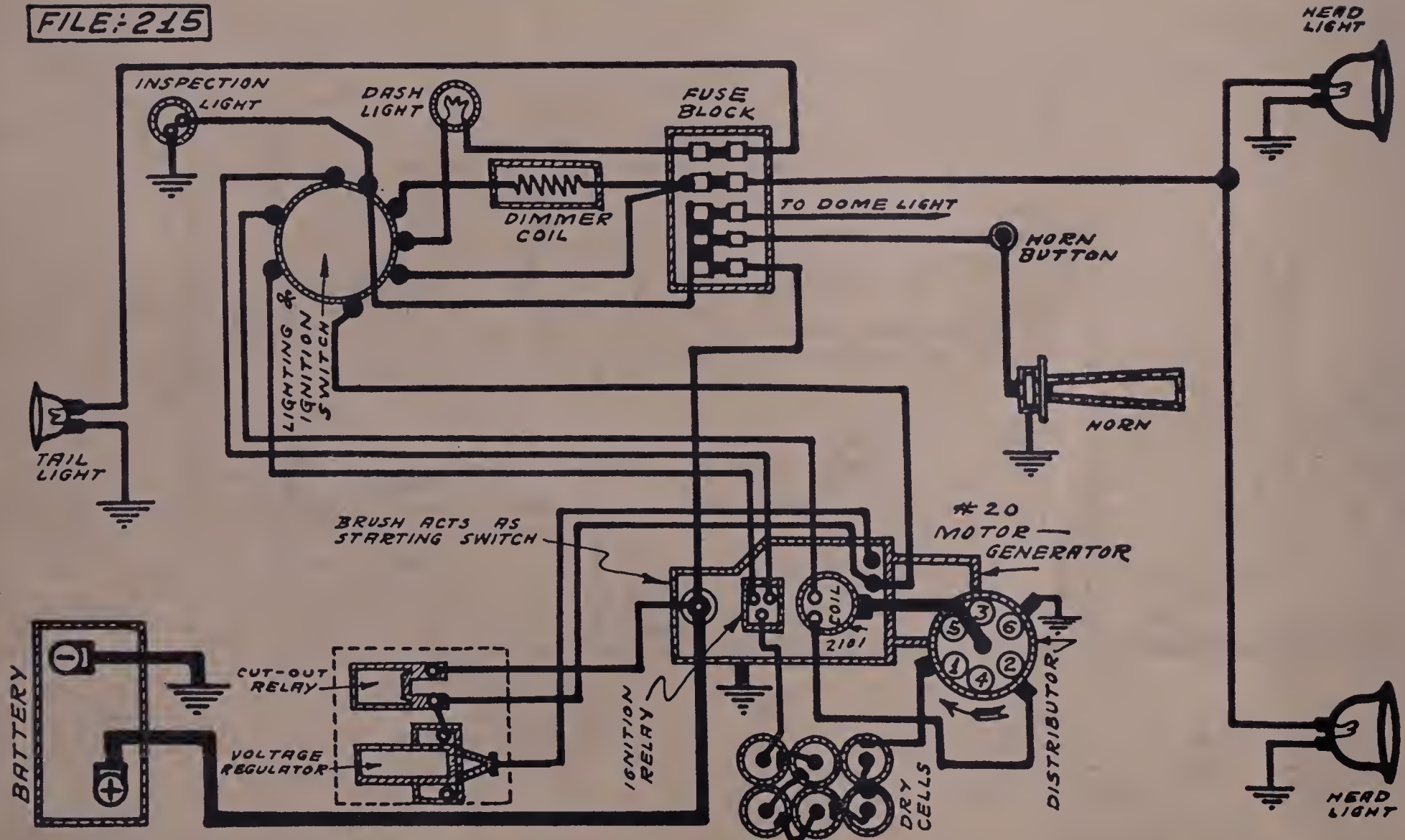
HUDSON

1914-1915.

MODEL, SIX-54

6-VOLT, - DELCO SYSTEM.

FILE: 215



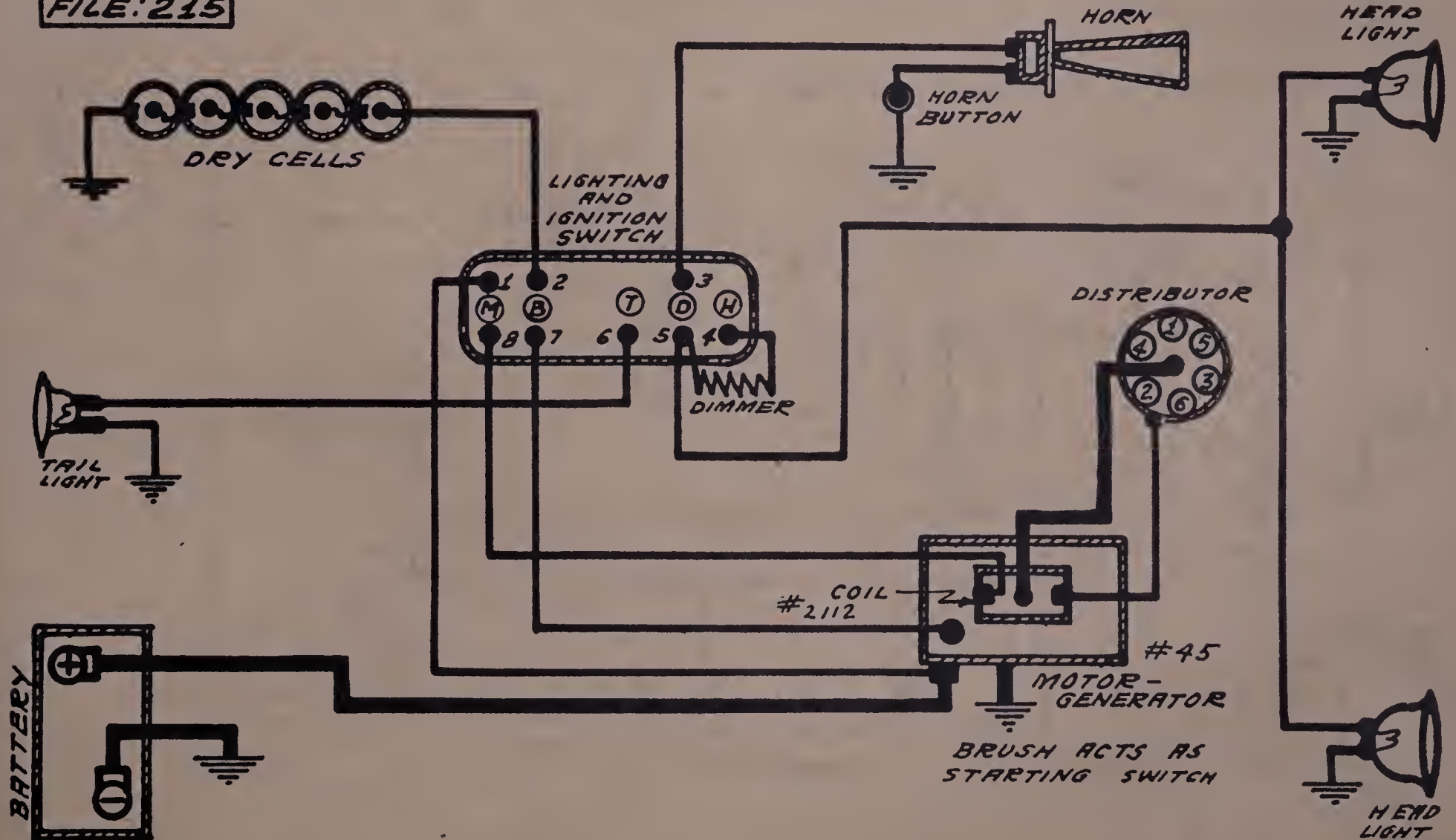
HUDSON

1915

MODEL 6-40.

6-VOLT,-DELCO SYSTEM.

FILE:215



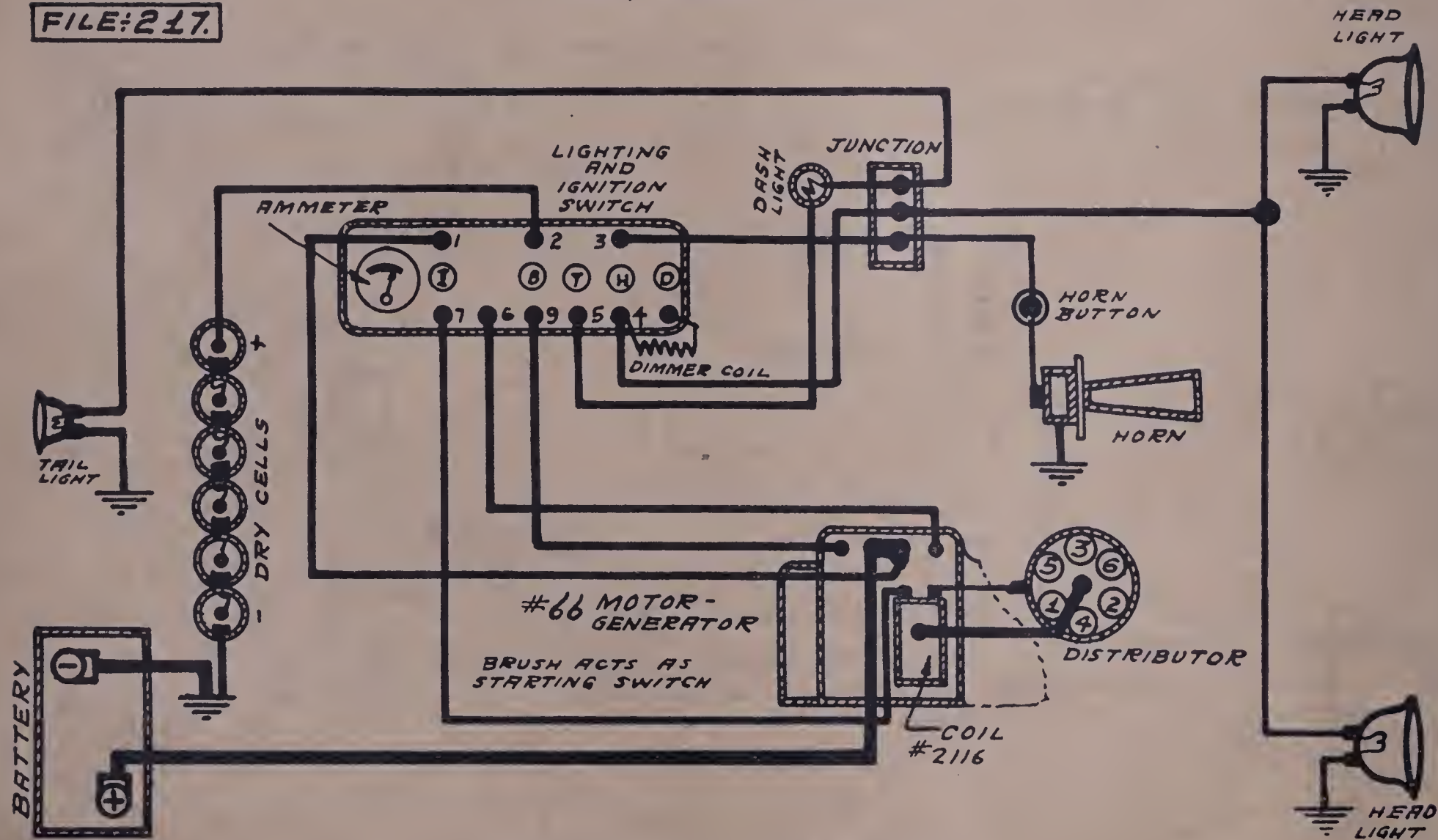
HUDSON

1916

MODEL SIX-40, G.

6-VOLT, -DELCO SYSTEM.

FILE:217.



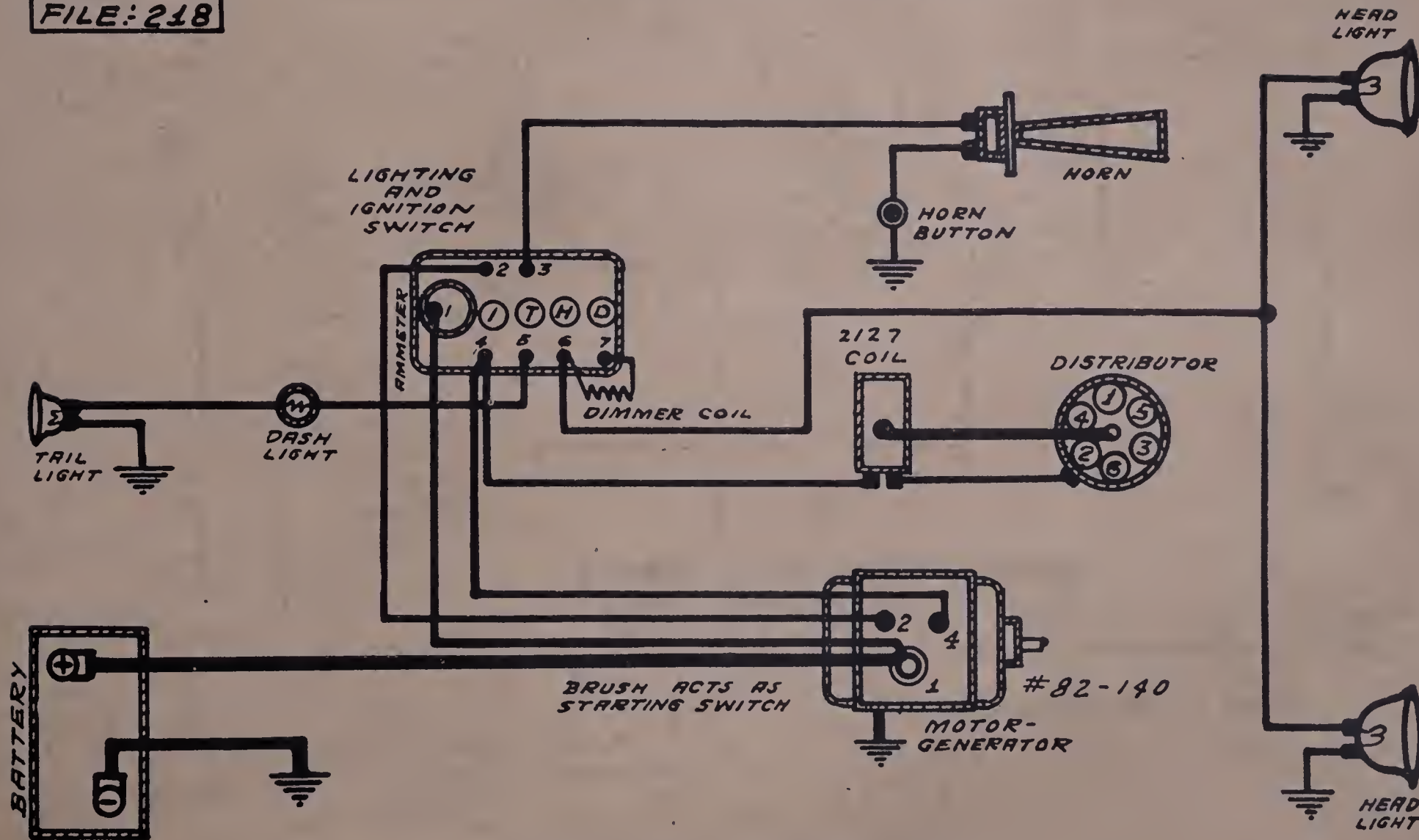
HUDSON

1916-17-18-19-20

MODEL SUPER SIX.

6-VOLT, -DELCO SYSTEM.

FILE: 218



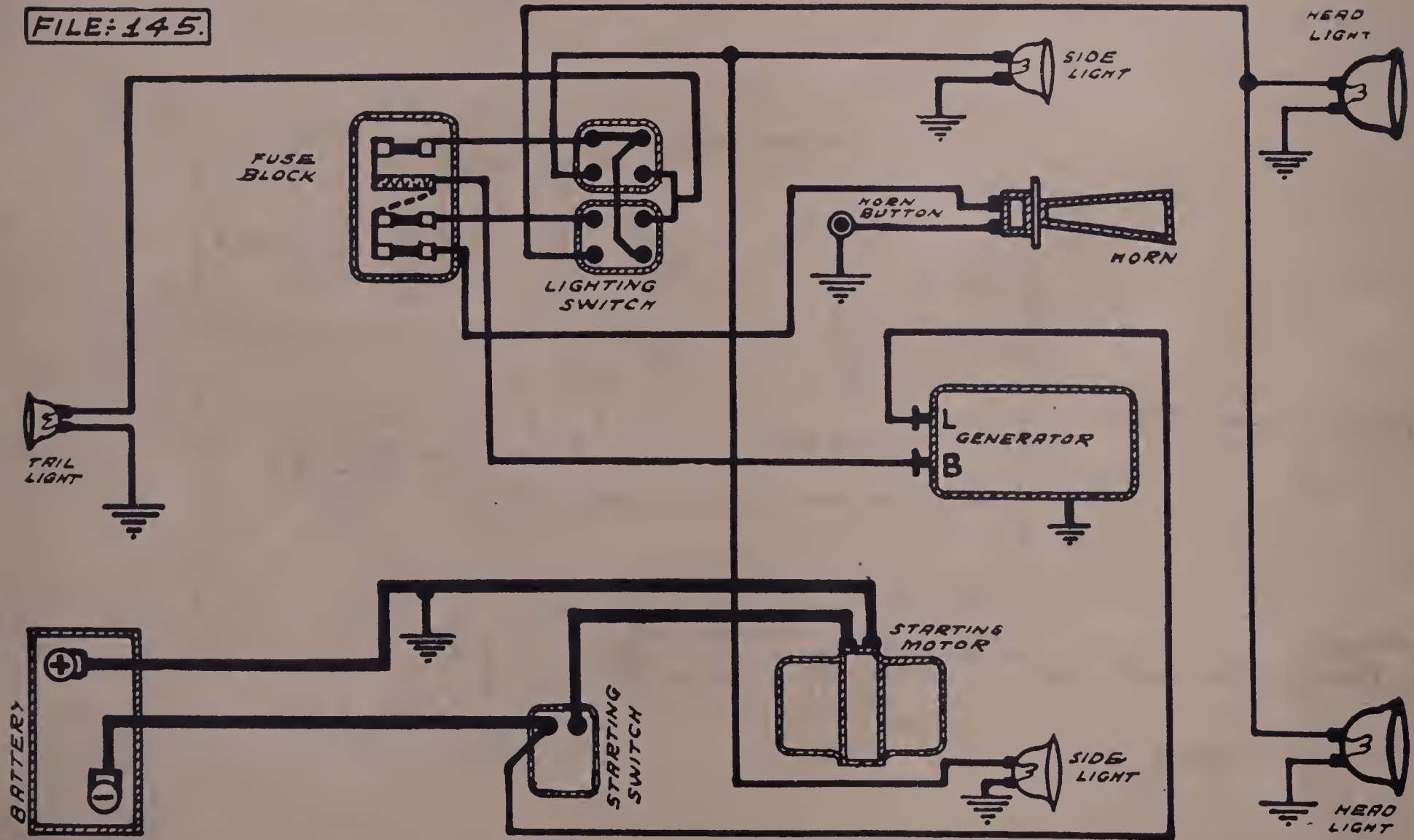
HUPMOBILE

1914-1915.

MODEL-32.

6-VOLT, WESTINGHOUSE SYSTEM.

FILE: 145.

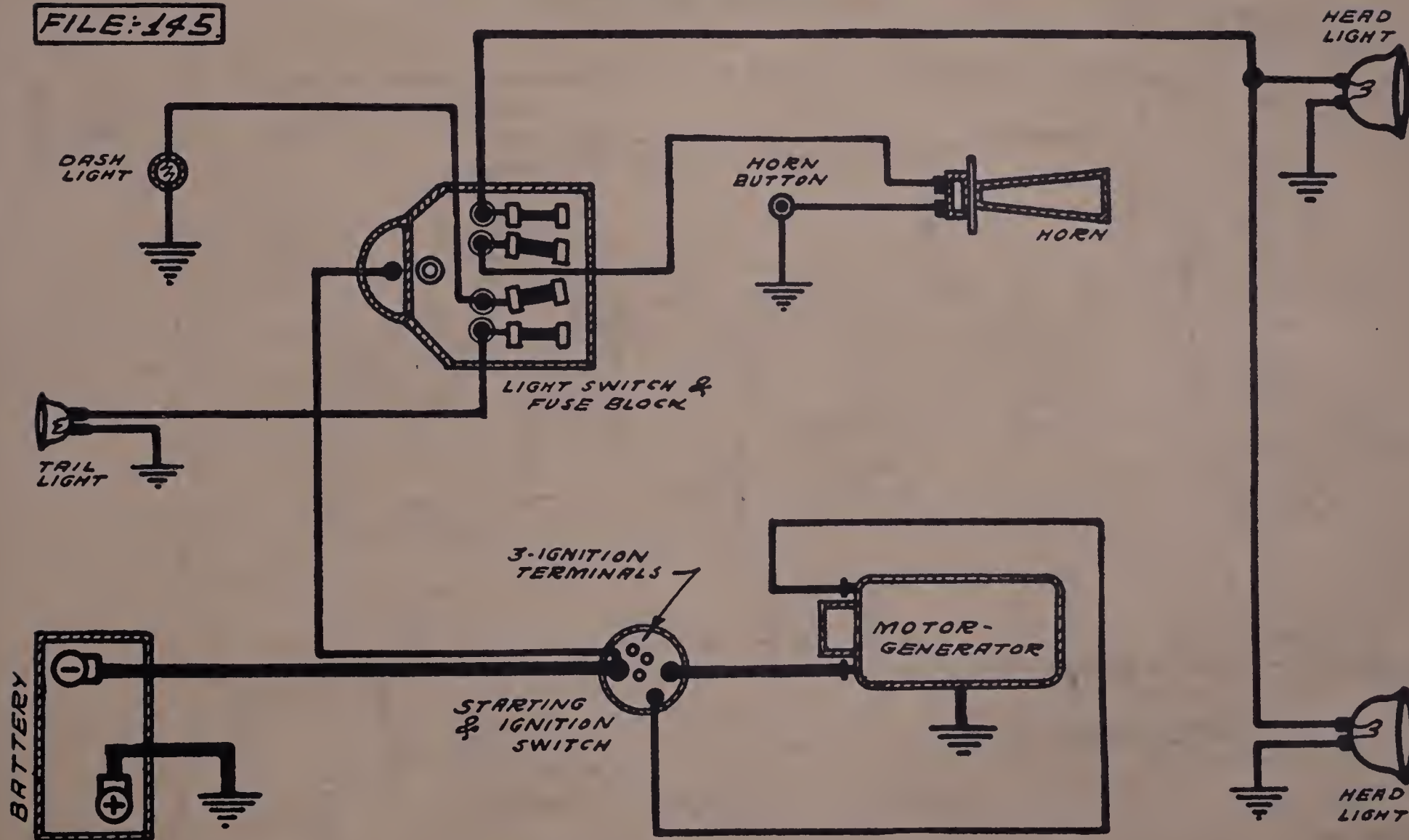


1915

HUPMOBILE

MODEL-K-
6-VOLT, WESTINGHOUSE SYSTEM.

FILE:145.



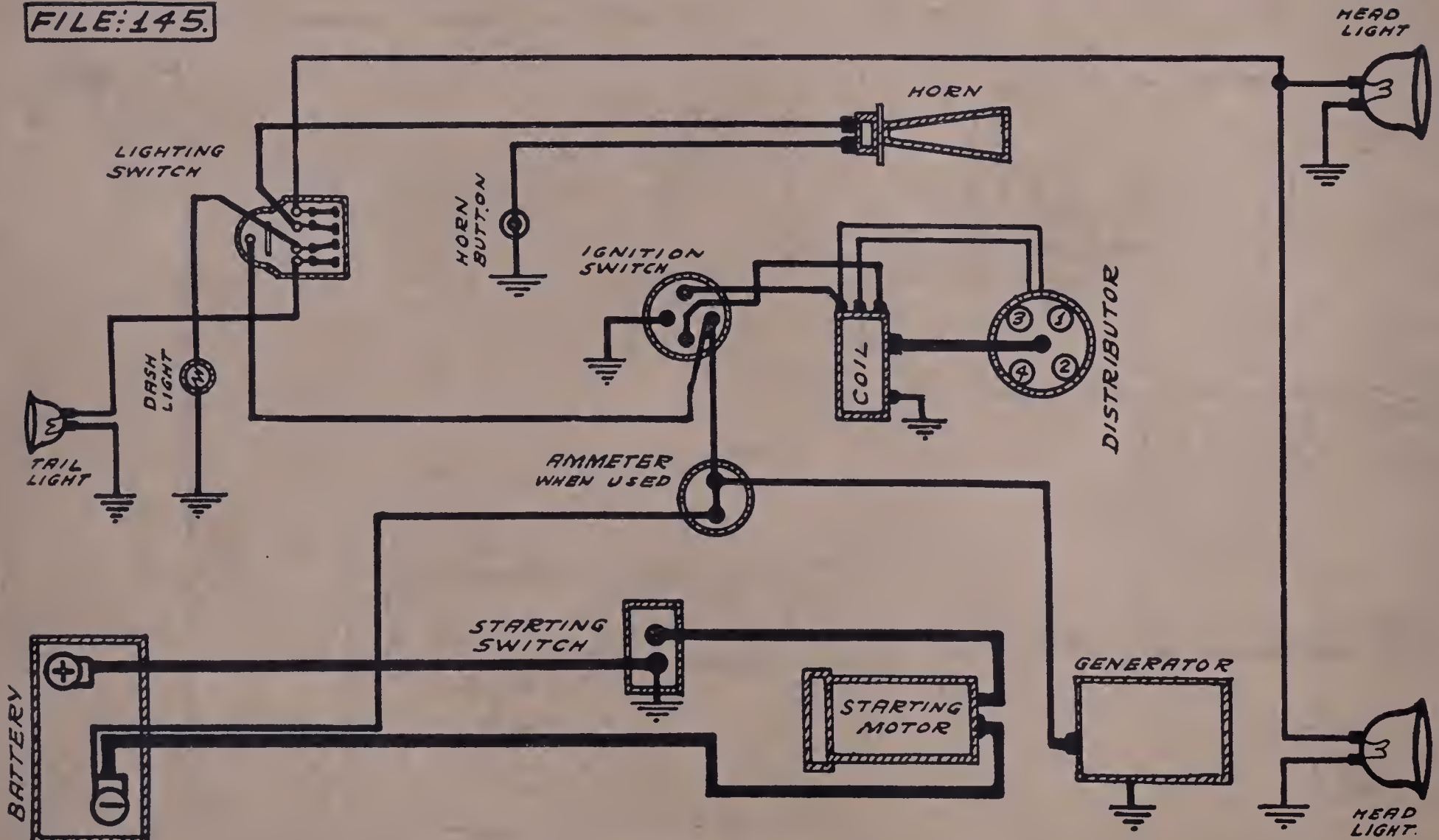
HUPMOBILE

1916

MODEL - N-

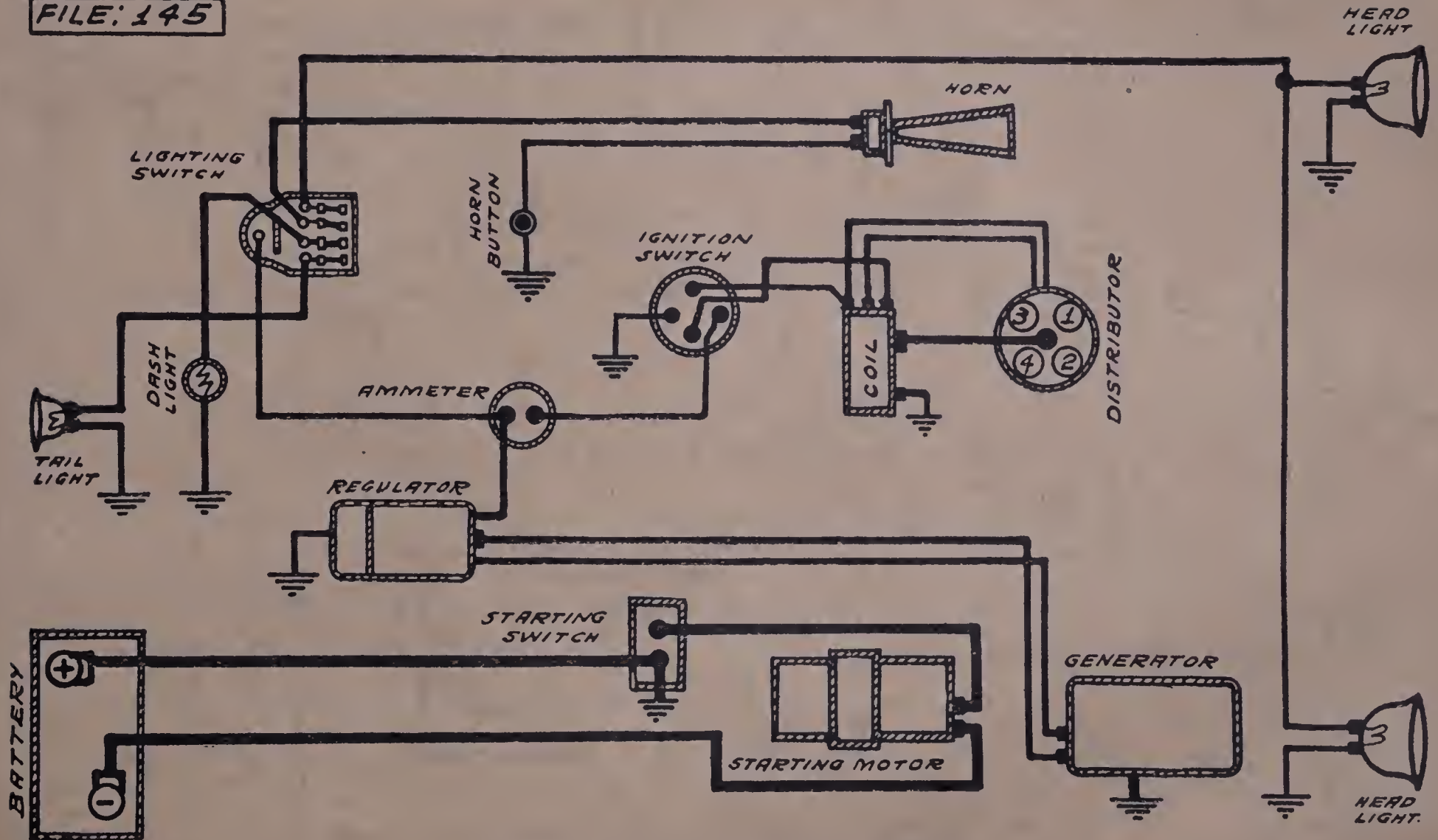
6-VOLT, BIJUR SYSTEM.

FILE: 145.



MODEL-N-

FILE: 145



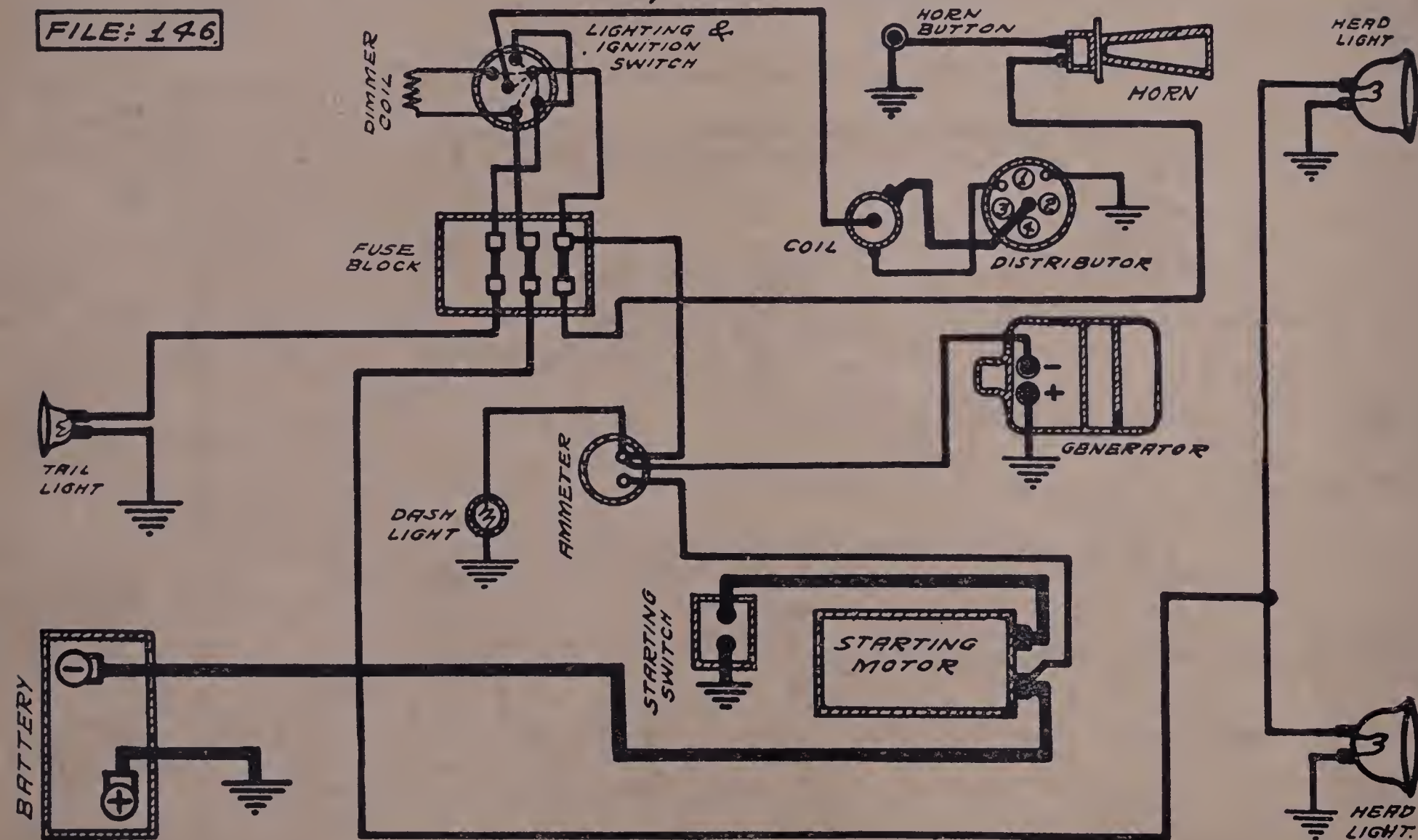
HUPMOBILE

1917-1918-1919.

MODEL-R.

6-VOLT, BIJUR SYSTEM.

FILE: 146.



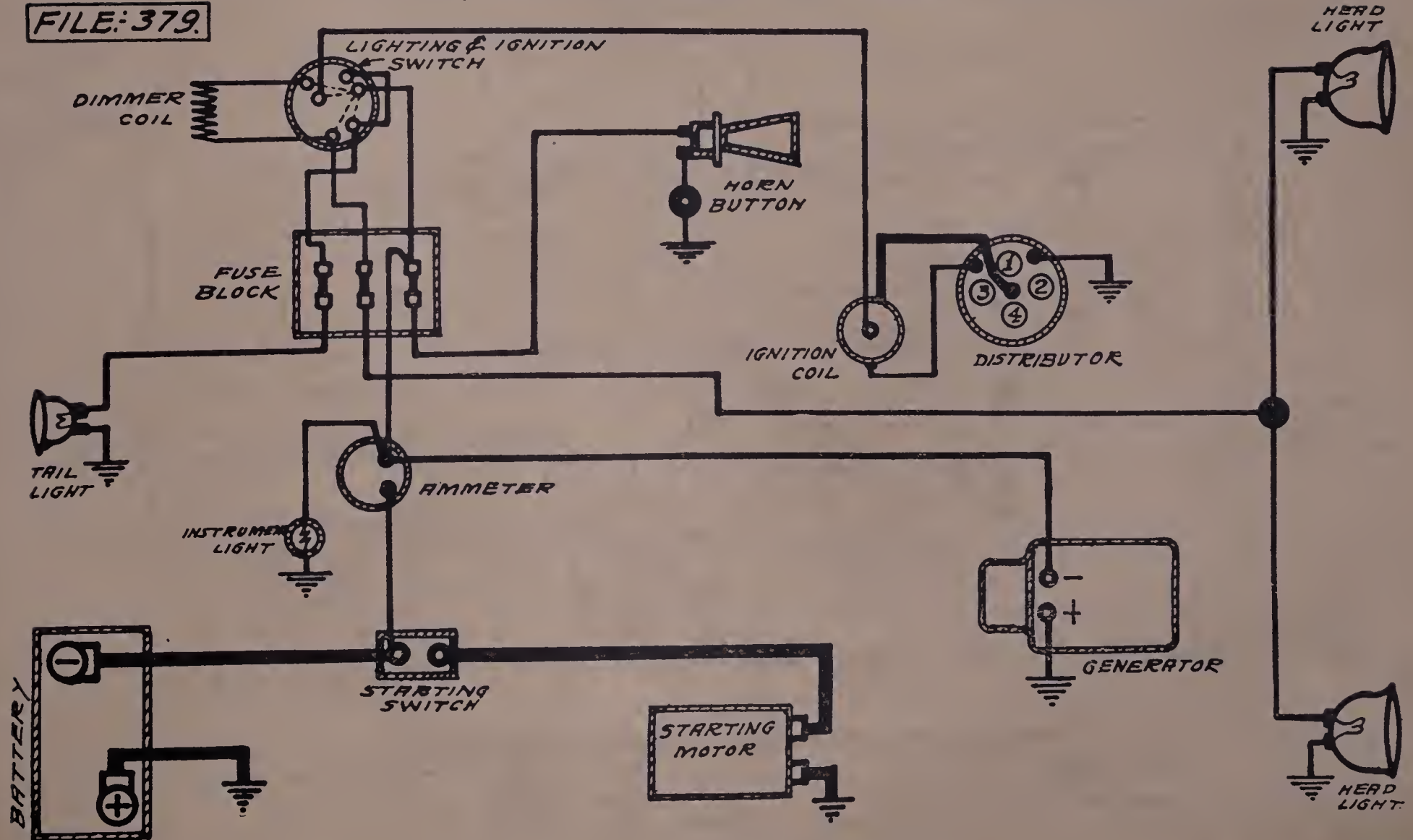
HUPMOBILE

1920

MODEL-R

6-VOLT, WESTINGHOUSE - AND - REMY SYSTEMS

FILE: 379.



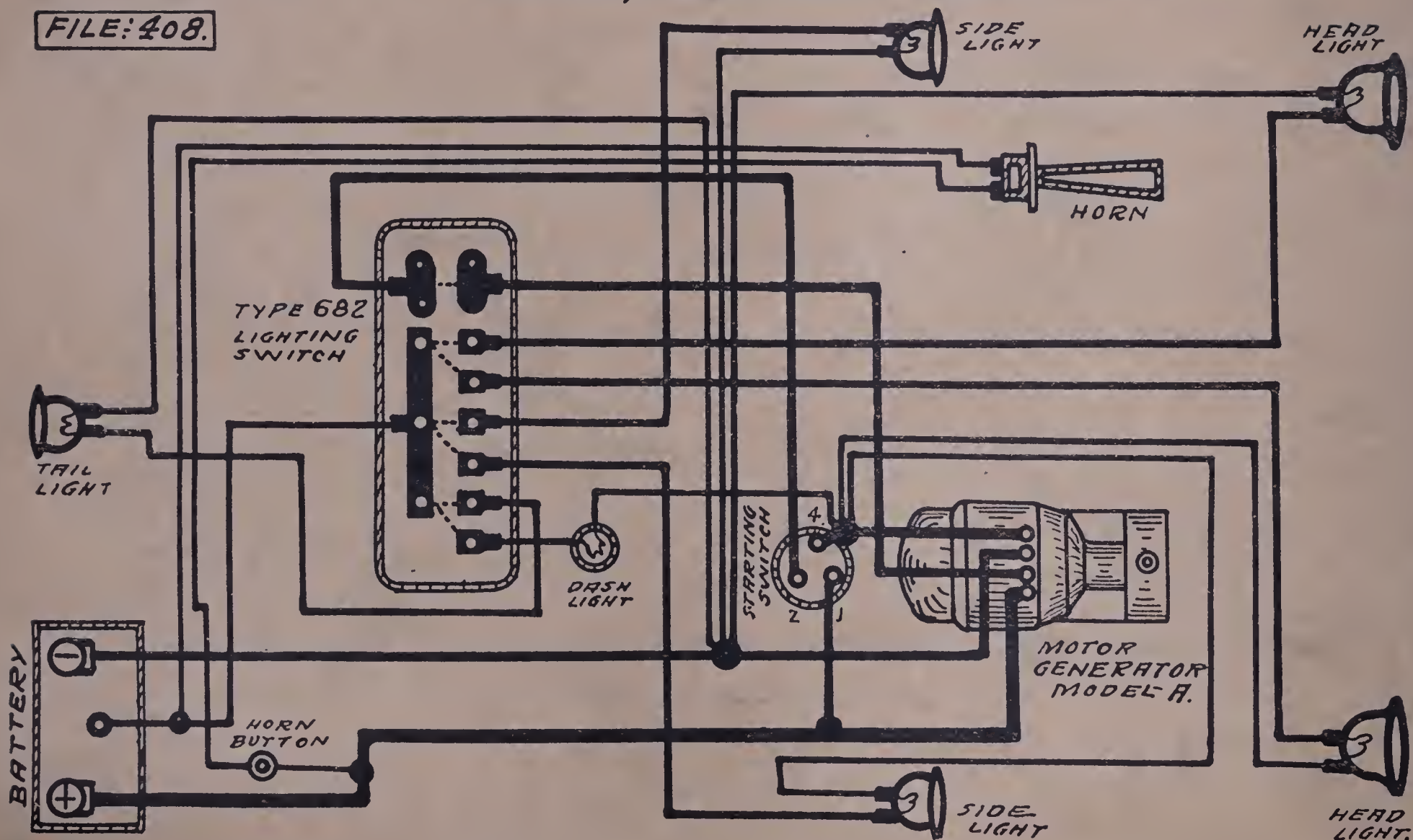
IMPERIAL

1913

MODEL 34.

16-VOLT, NORTH EAST SYSTEM.

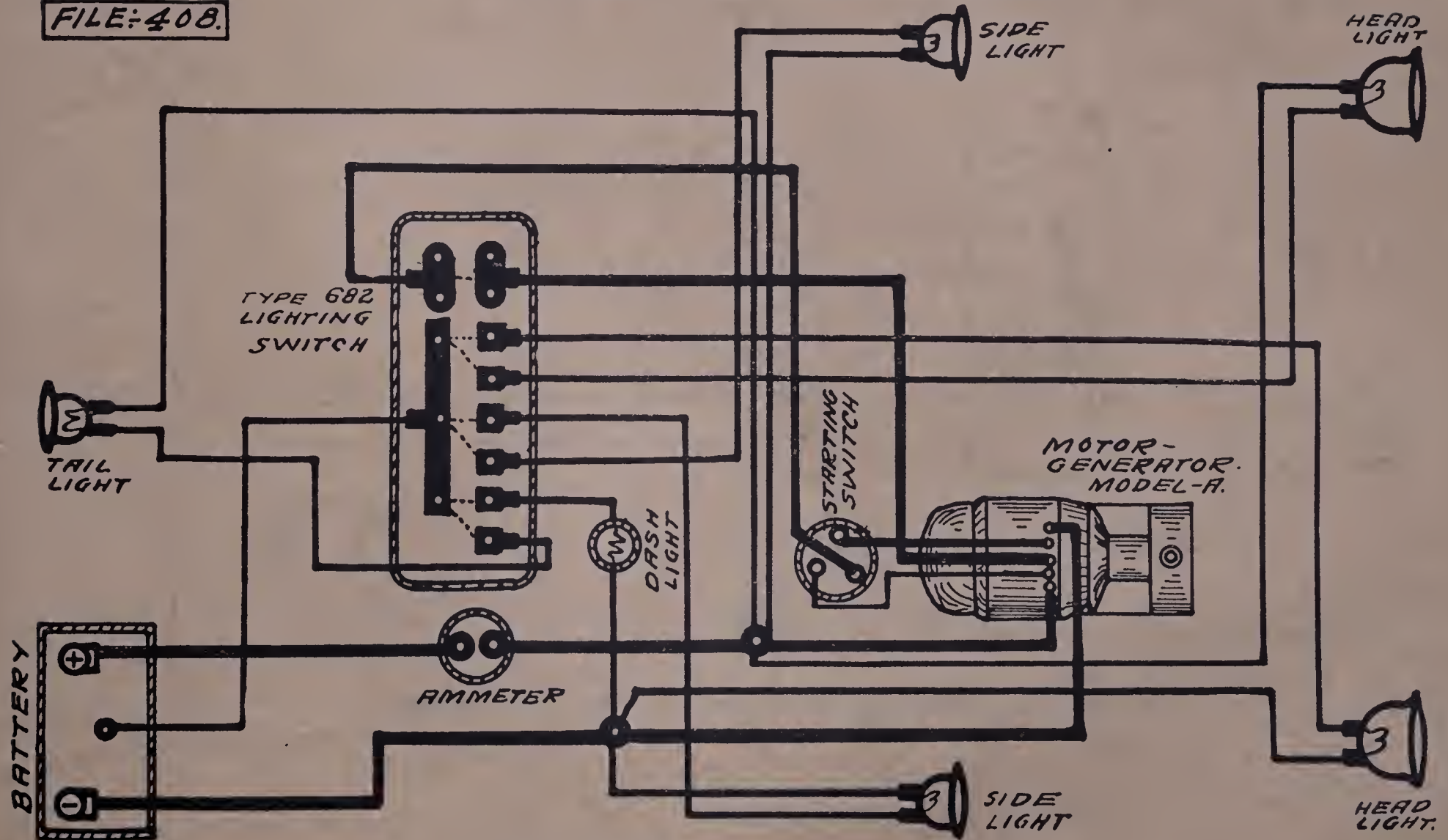
FILE: 408.



IMPERIAL

EARLY 1914 MODEL-34.
16-VOLT, NORTH EAST SYSTEM.

FILE: 408.



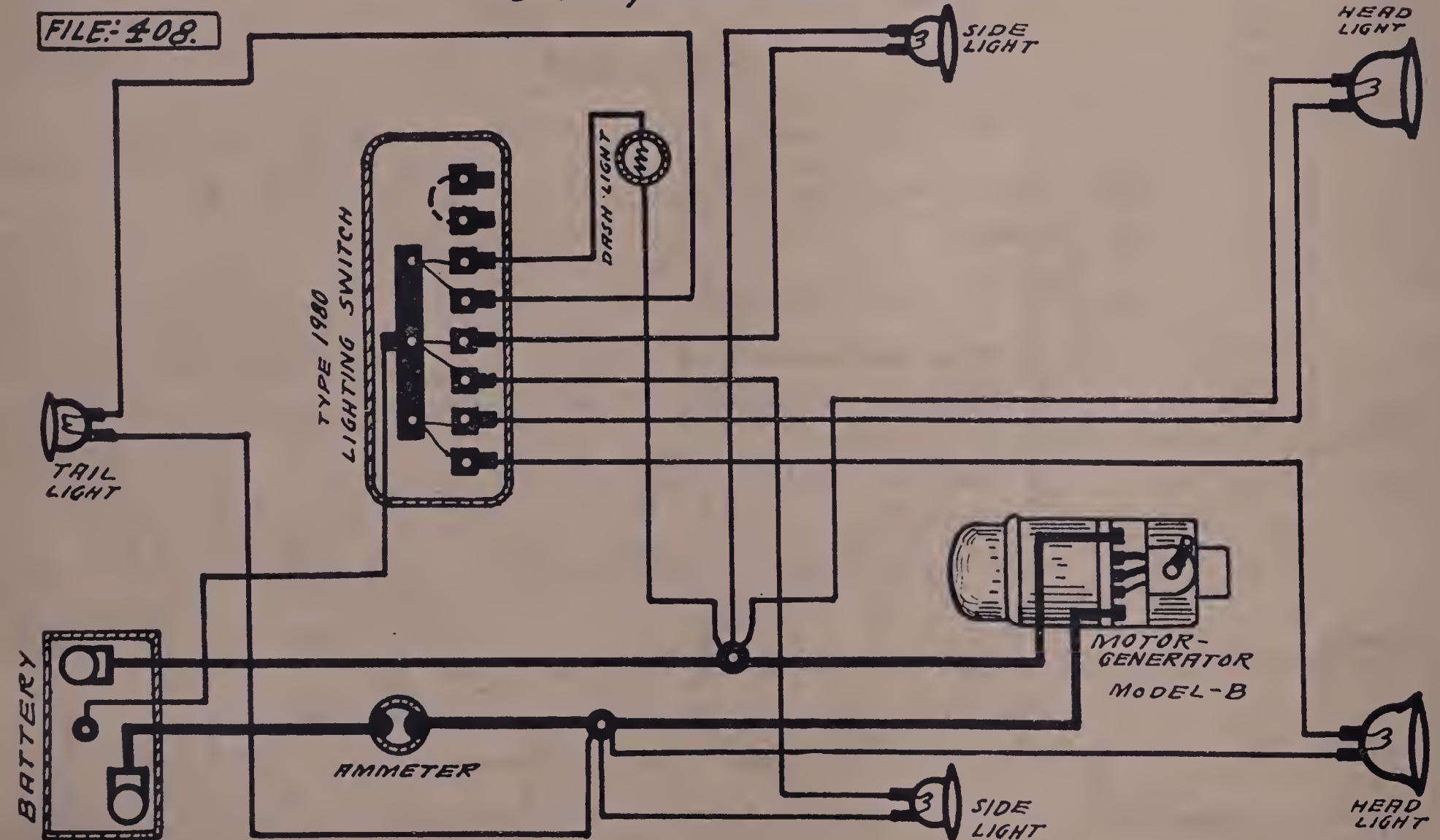
IMPERIAL

1914

MODELS-32,34,39,44,54,56.

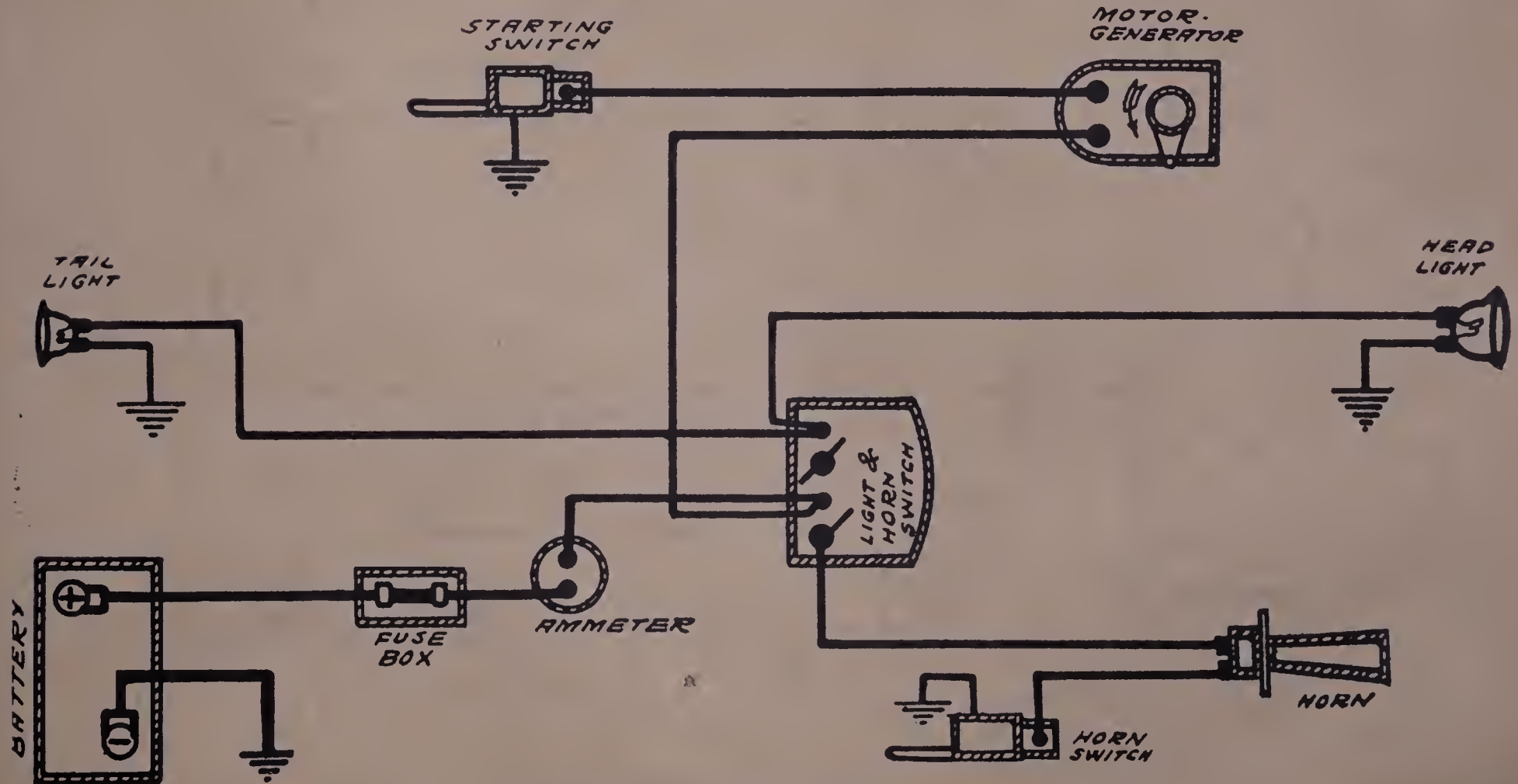
16-VOLT, -NORTHEAST SYSTEM.

FILE: 408.



-INDIAN-
LAMPS AND HORN CONTROLLED BY MAIN SWITCH
6-VOLT, - SPLITDORF MAG-DYNAMO SYSTEM.

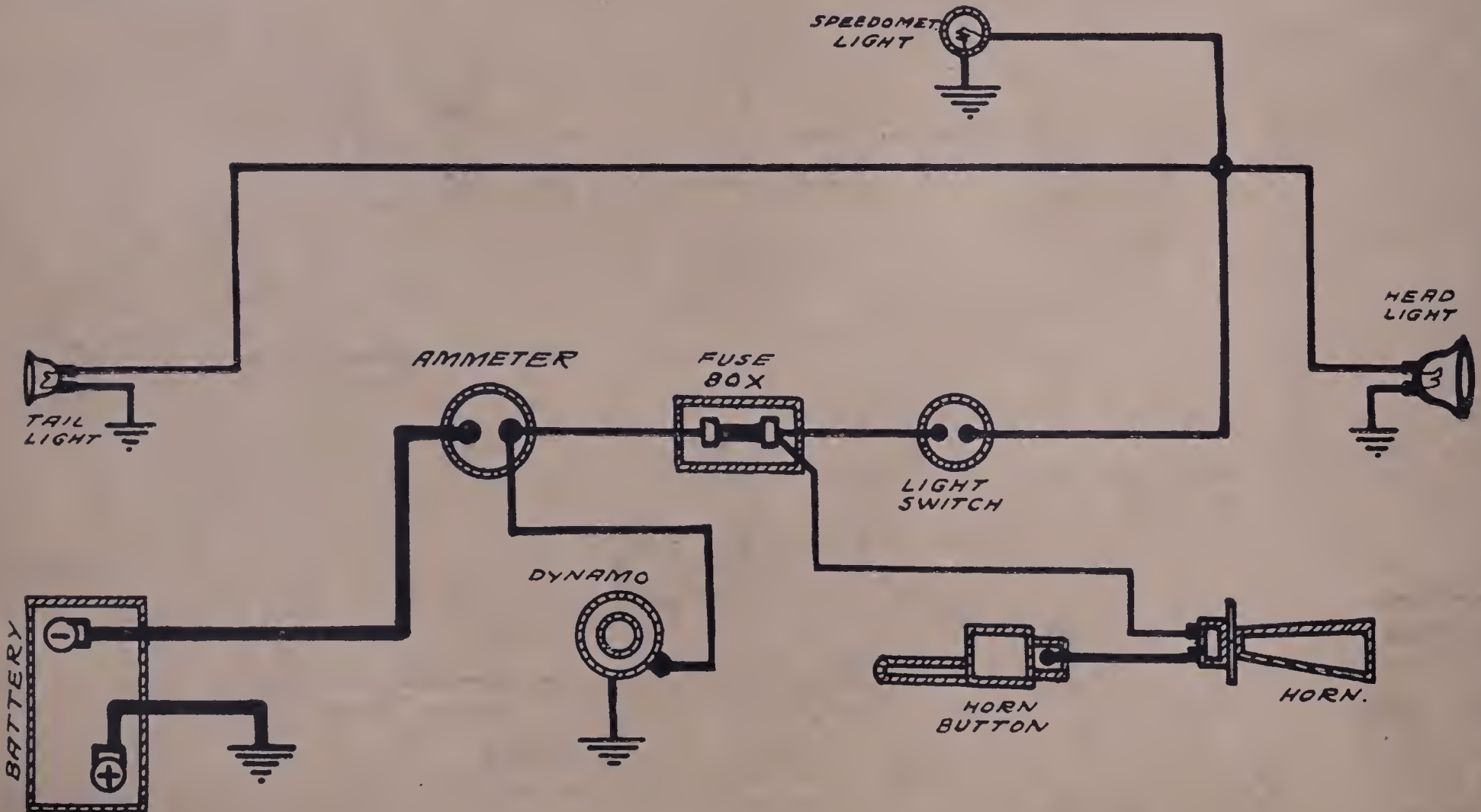
FILE:149.



INDIAN

6-VOLT, - MODEL DU-1 SPLITDORF LIGHTING SYSTEM.

FILE: 148

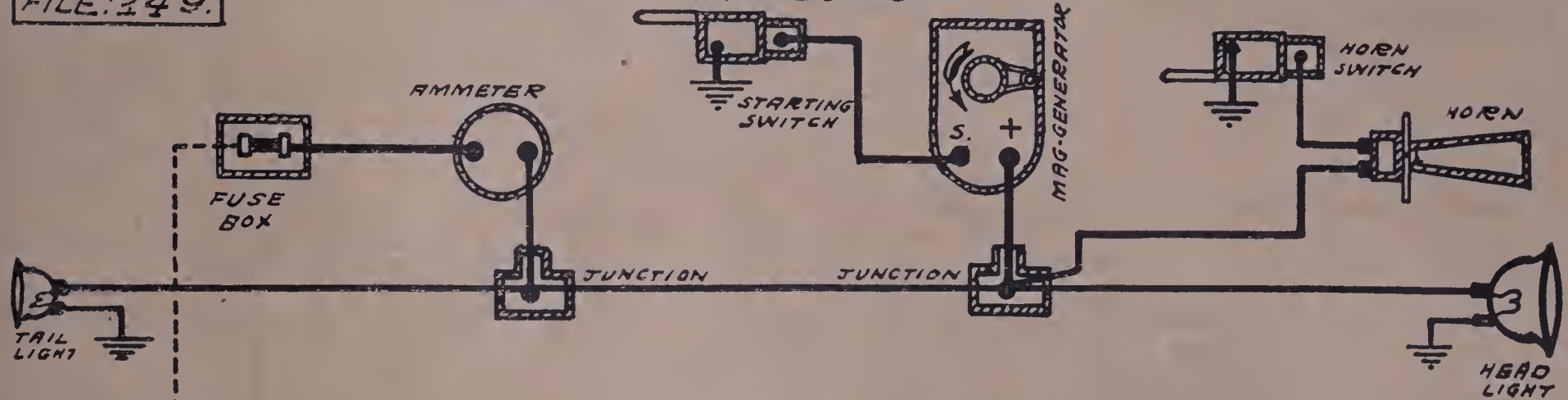


INDIAN

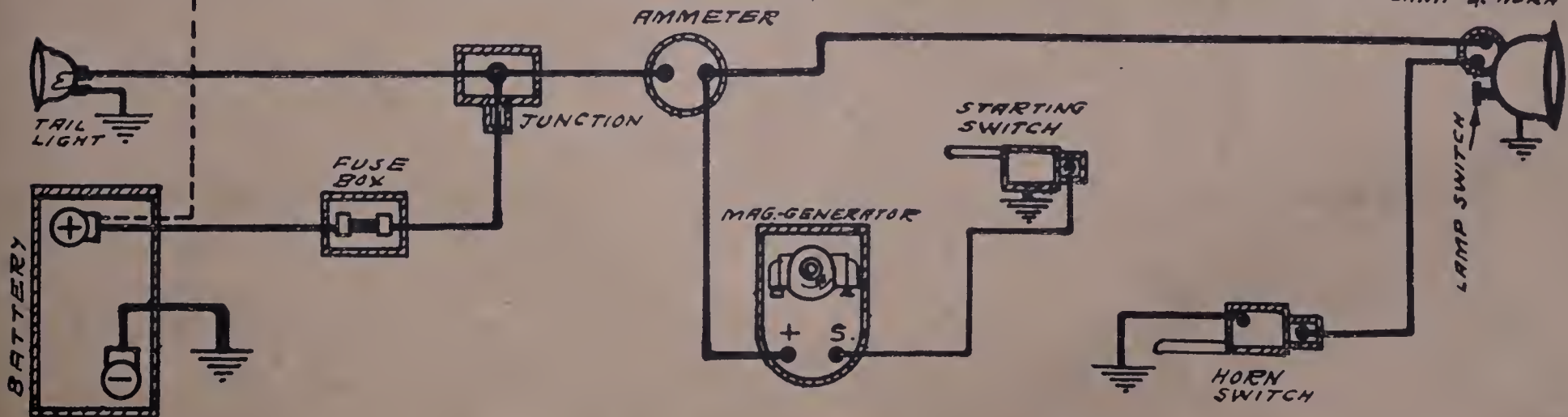
6-VOLT, SPLITDORF-MAGNETO-GENERATOR SYSTEM.

FILE: 149.

SWITCH IN LAMP SOCKETS



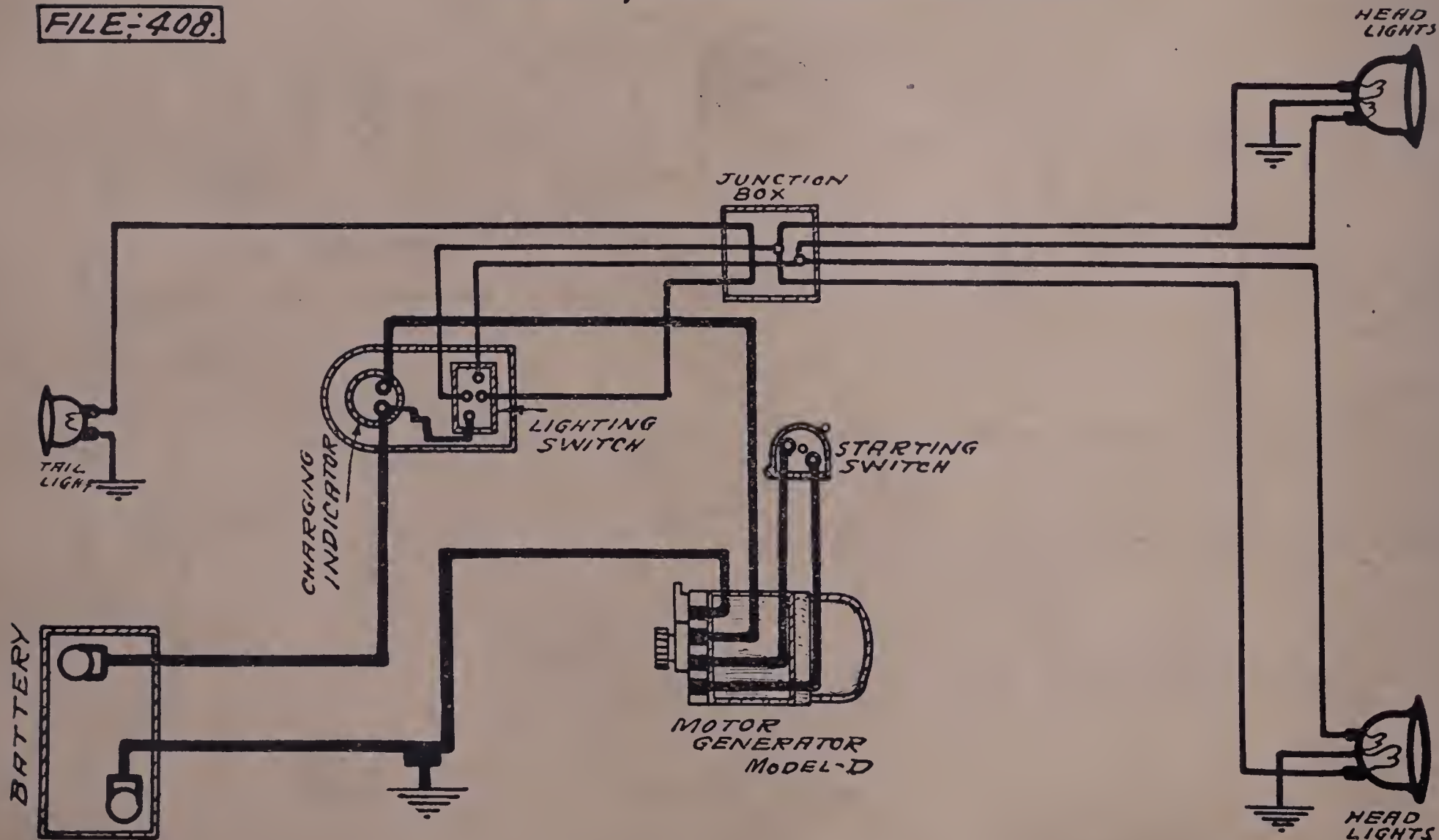
TAIL LAMP AND COMBINATION HORN IN HEAD LAMP CONTROLLED BY MAIN SWITCH
LAMP & HORN



INTERNATIONAL HARVESTER TRUCK

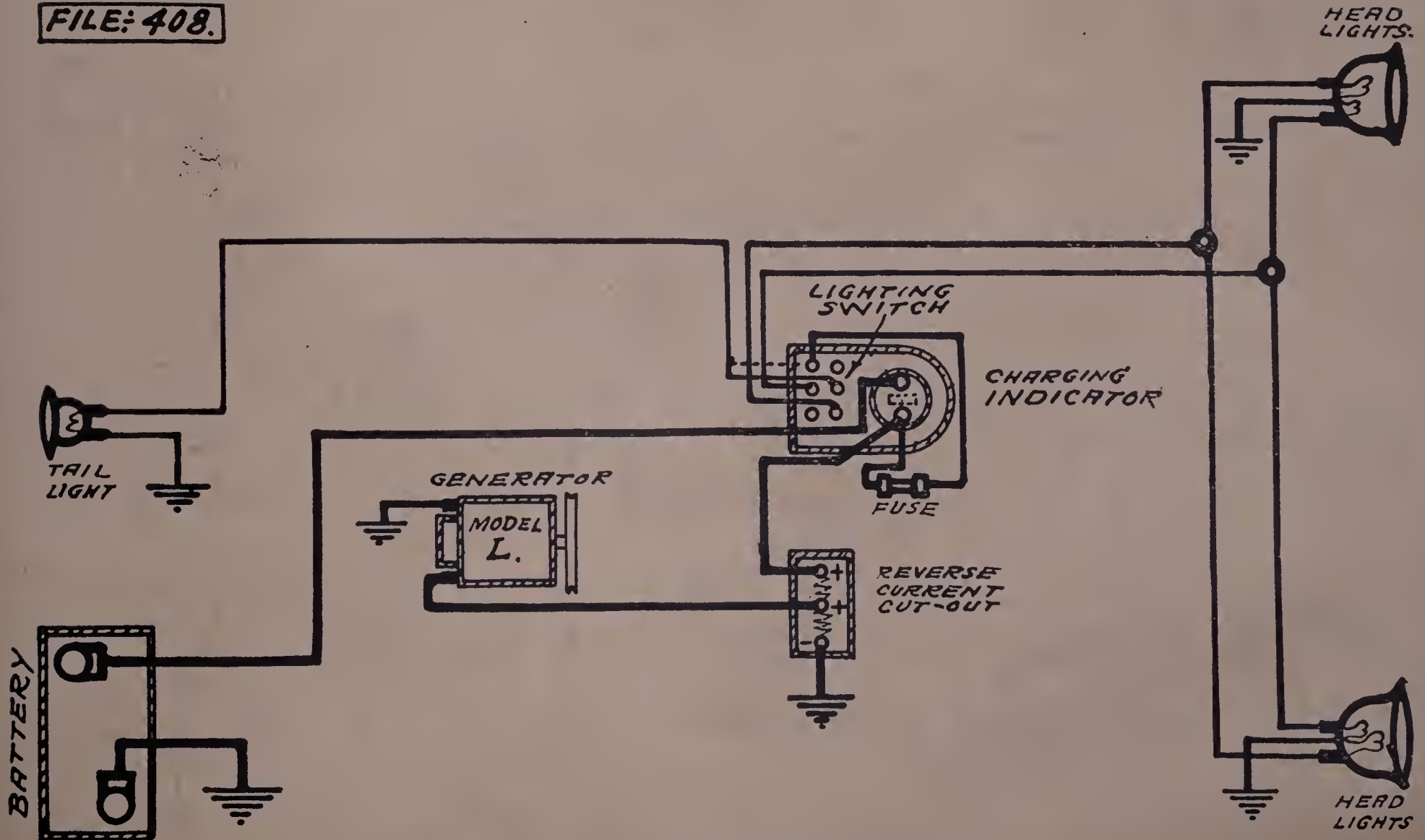
12-VOLT, -NORTH EAST SYSTEM.

FILE: 408.



INTERNATIONAL MOTOR TRUCK 6-VOLT, NORTH EAST LIGHTING SYSTEM.

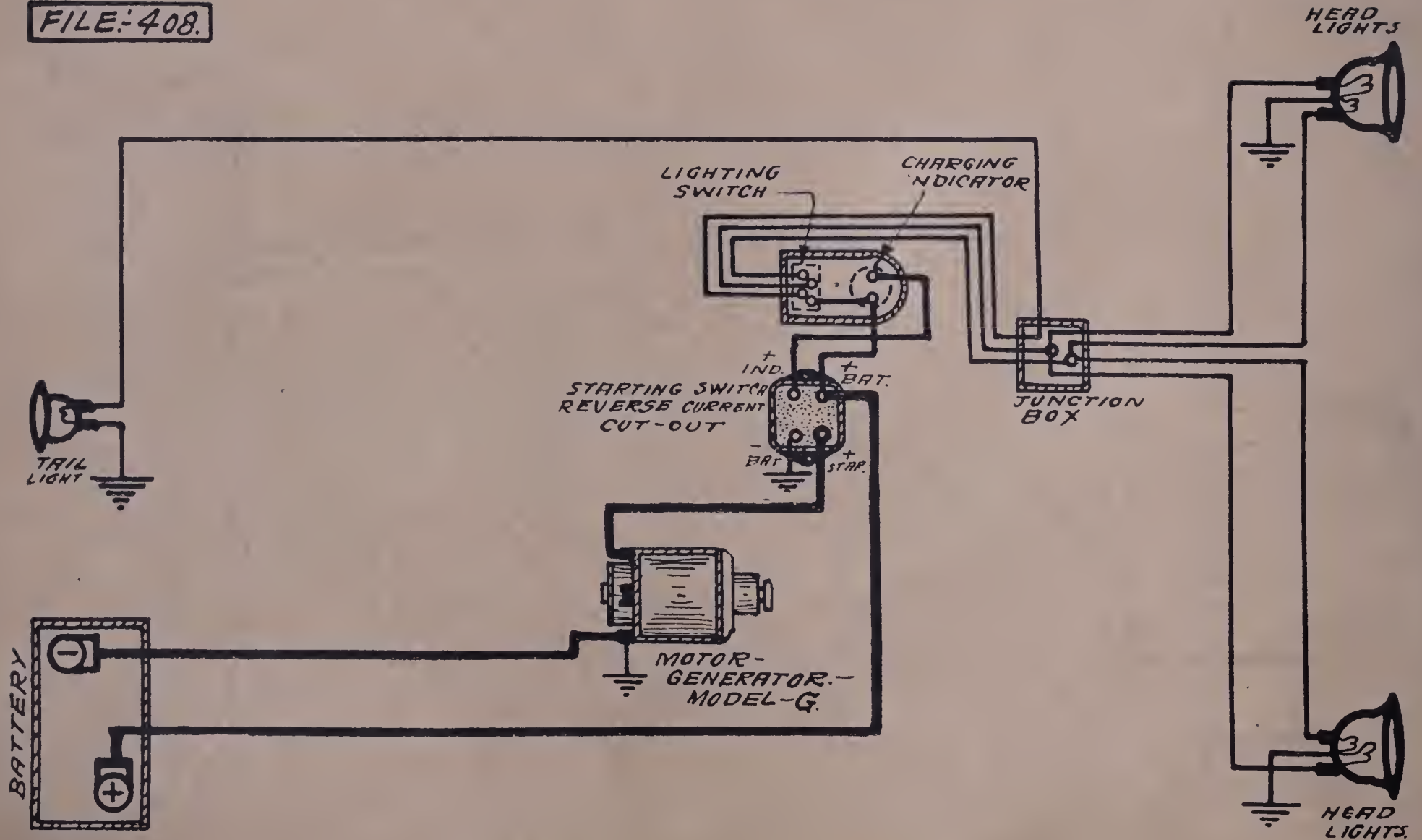
FILE: 408.



INTERNATIONAL MOTOR TRUCK

12-VOLT, - NORTH EAST SYSTEM.

FILE: 408.



INTERSTATE

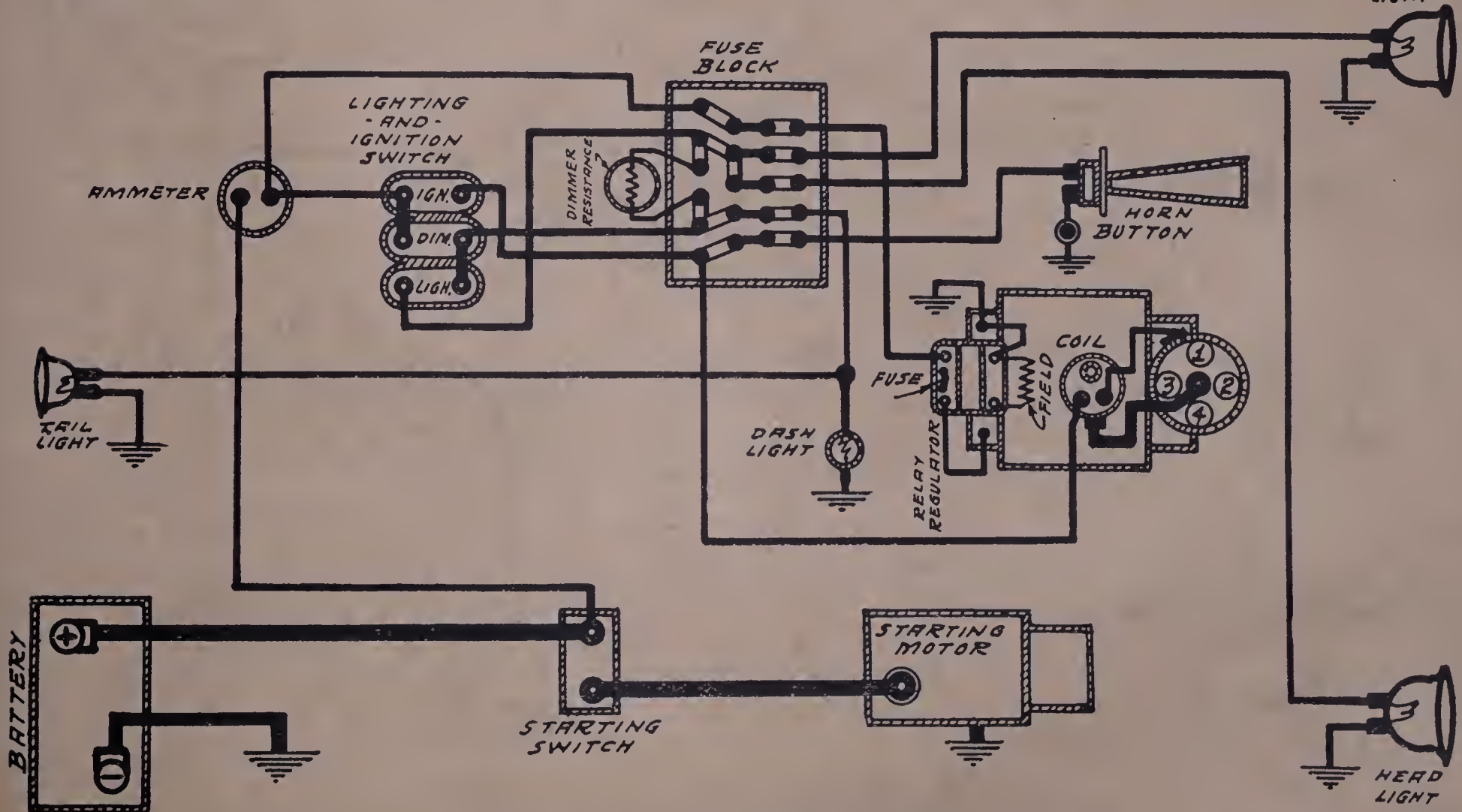
1915-1916

MODEL "T"

6-VOLT, - REMY SYSTEM.

FILE: 238.

USED ON ALL MODEL-T CARS WITH SERIAL NUMBERS BEFORE 9988.



INTERSTATE

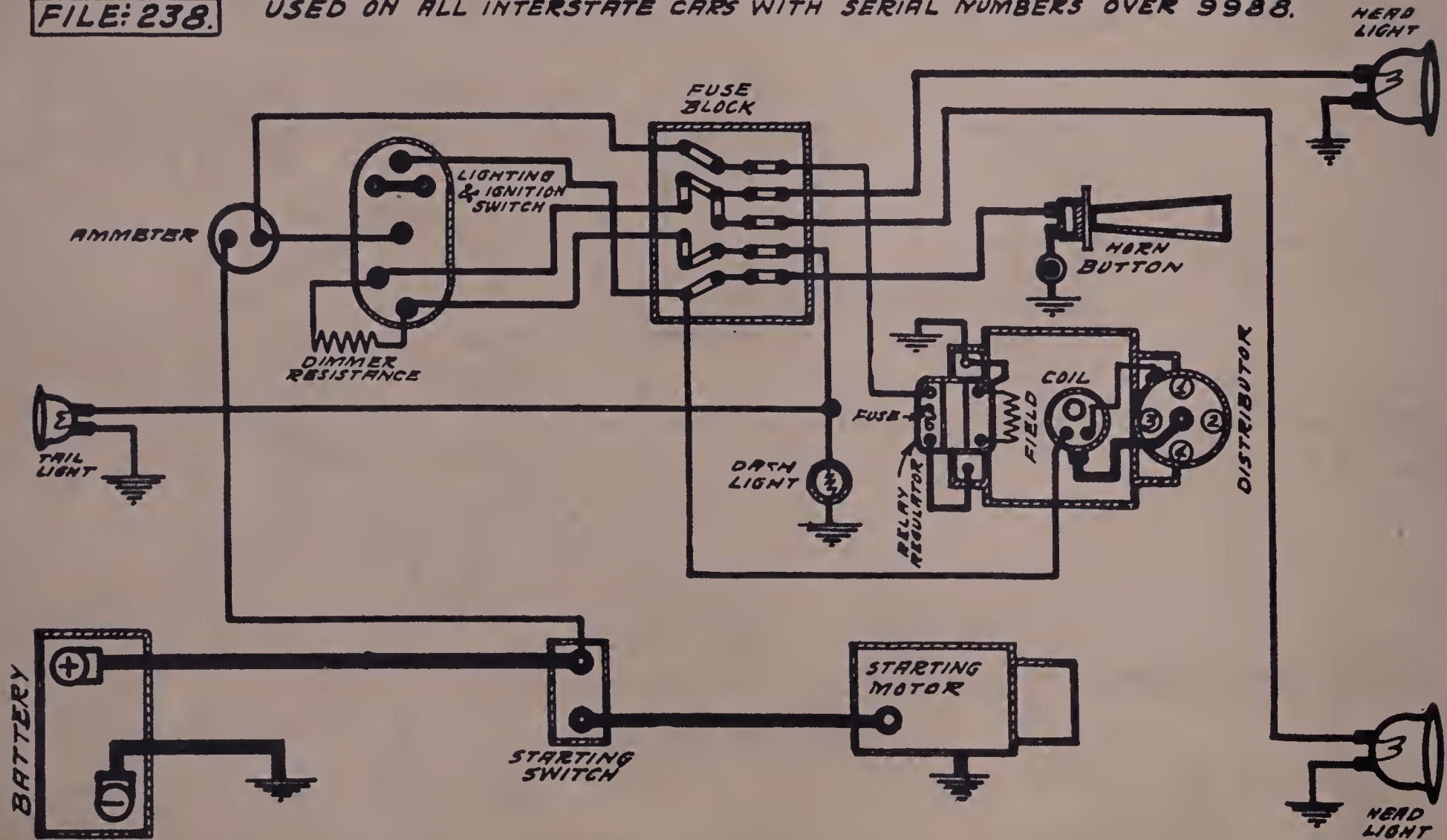
1916-1917-1918.

MODELS-T, TR, TF, TD, TC.

6-VOLT; REMY SYSTEM.

FILE: 238.

USED ON ALL INTERSTATE CARS WITH SERIAL NUMBERS OVER 9988.

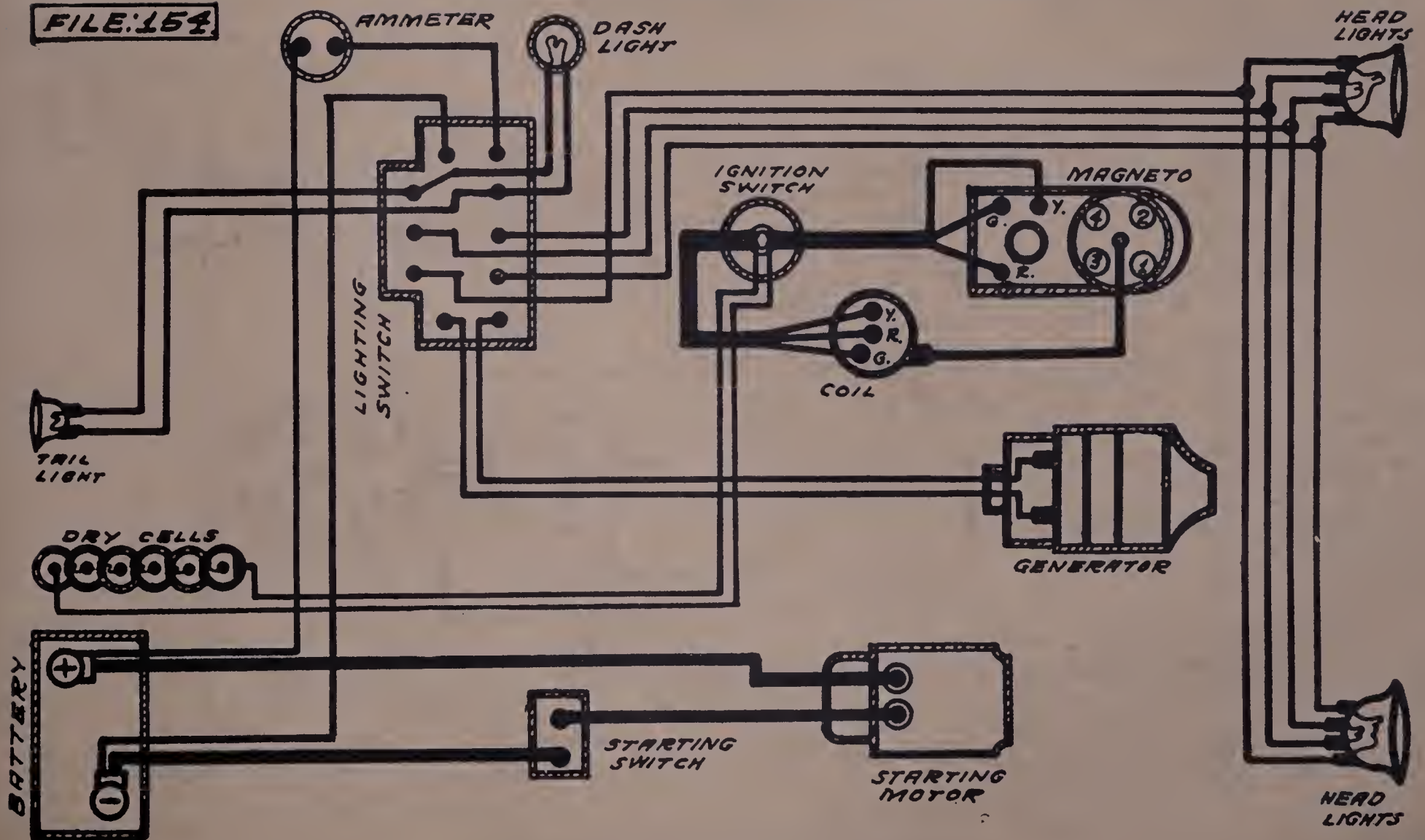


JACKSON

1914

MODEL -46.

6-VOLT, -NORTHEAST SYSTEM.

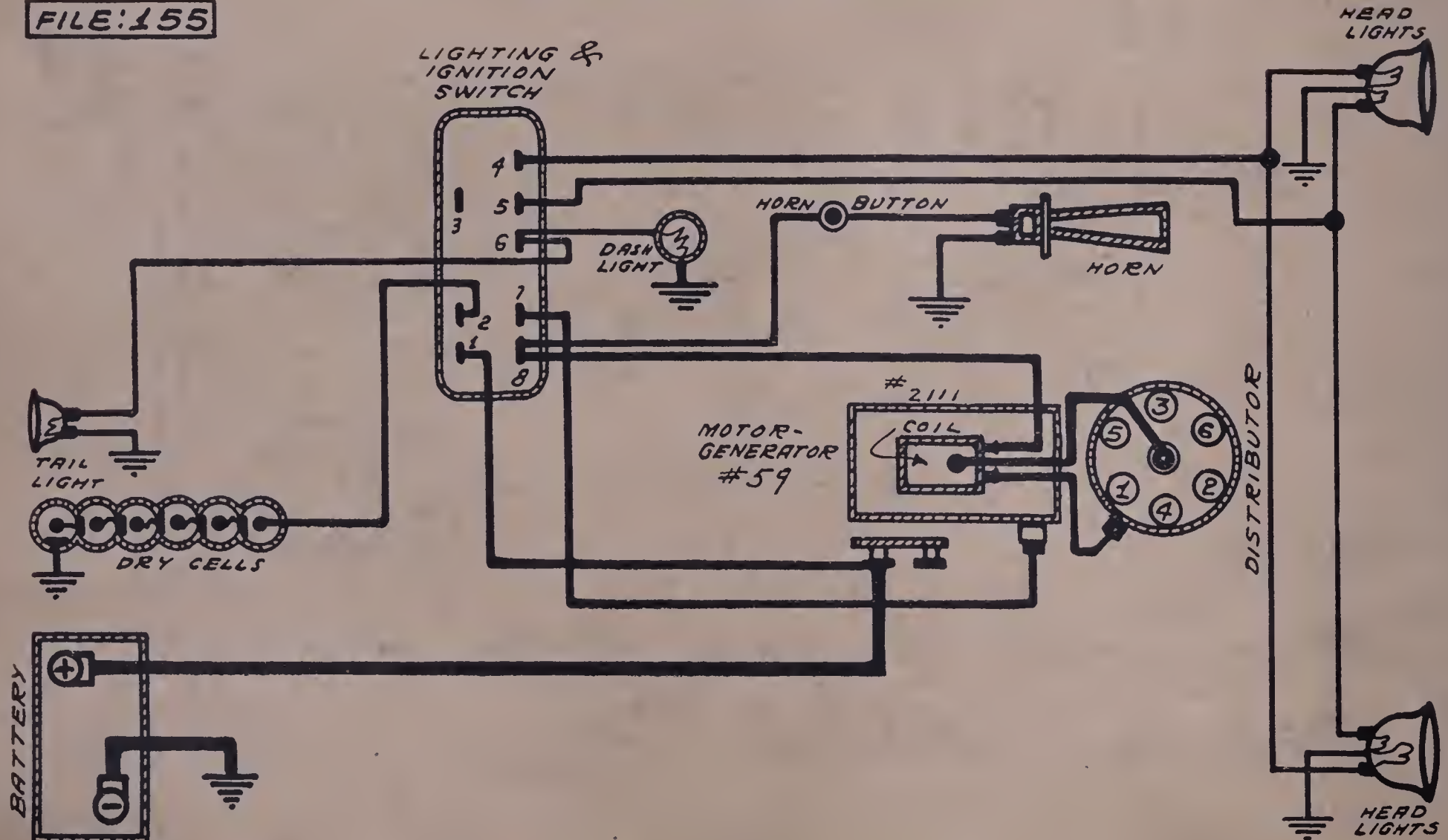


MODEL 48.
6-VOLT, - DELCO SYSTEM.

MODEL 48.

6-VOLT, - DELCO SYSTEM.

LIGHTING &
IGNITION
SWITCH



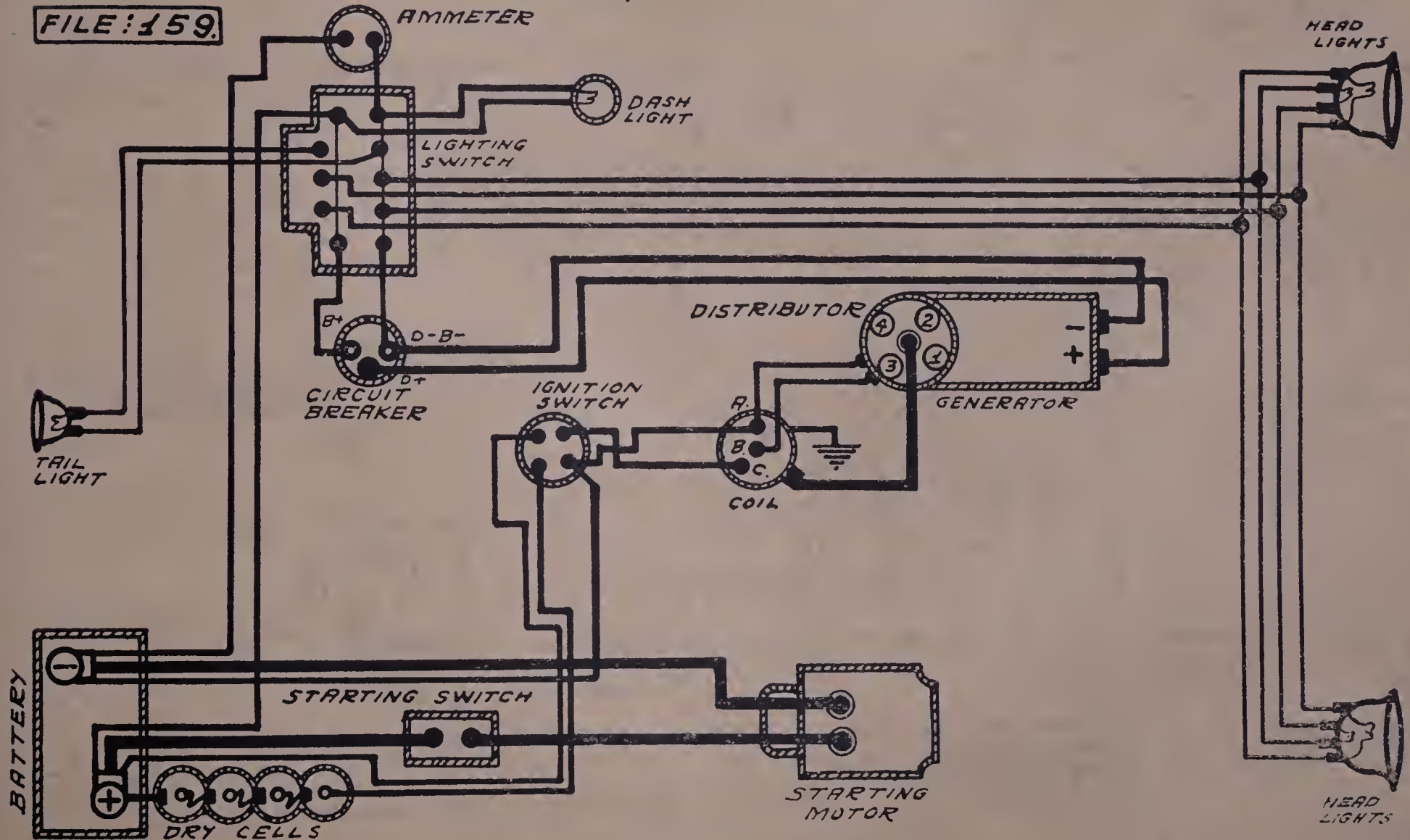
JACKSON

1915-1916

MODEL 44

6-VOLT, NORTH-EAST SYSTEM.

FILE: 159.



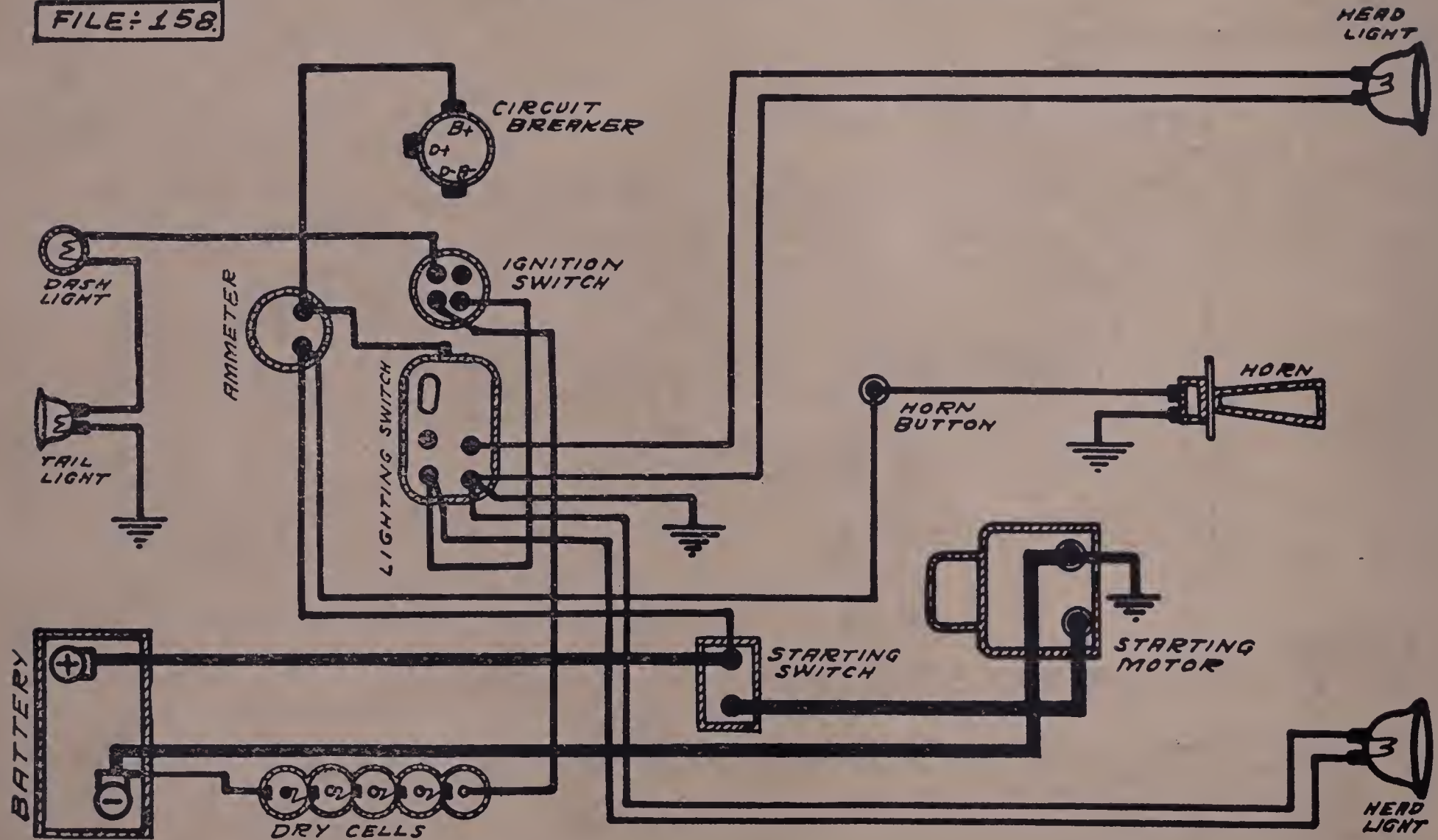
JACKSON

1916.

MODEL-68.

6-VOLT,-AUTOLITE SYSTEM.

FILE: 158.



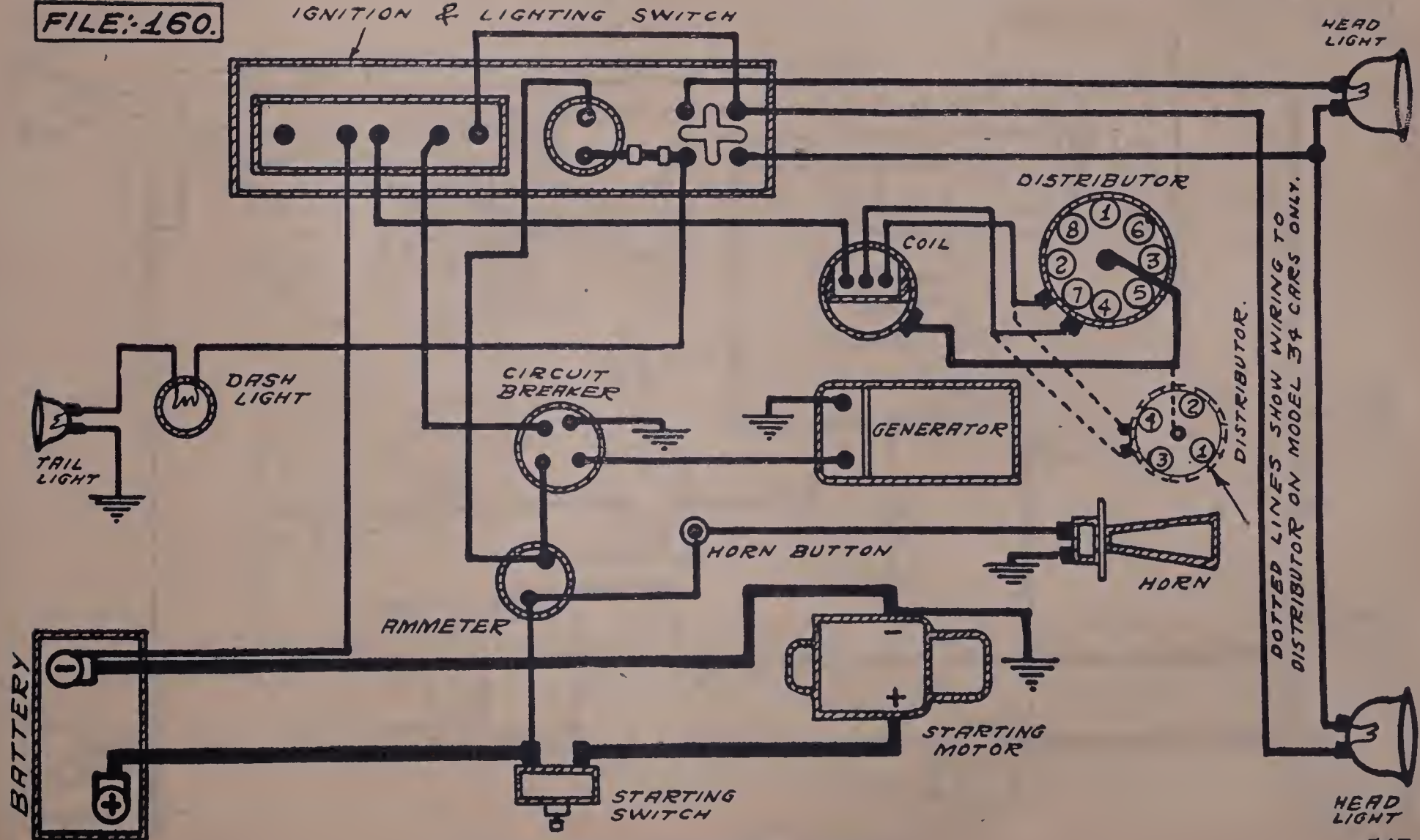
JACKSON

1916.

MODEL - 348

6-VOLT, -AUTOLITE SYSTEM.

FILE: 160.

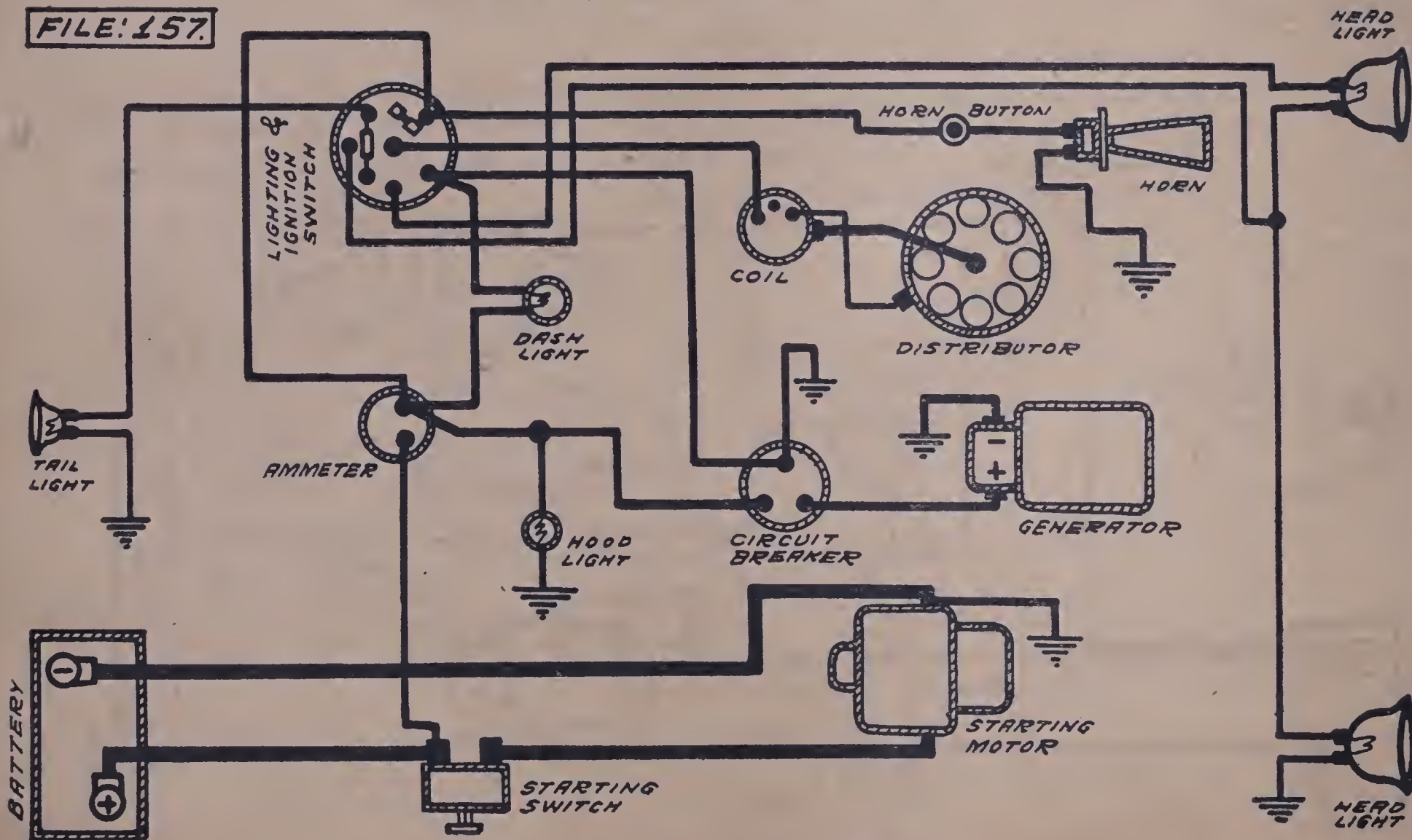


JACKSON

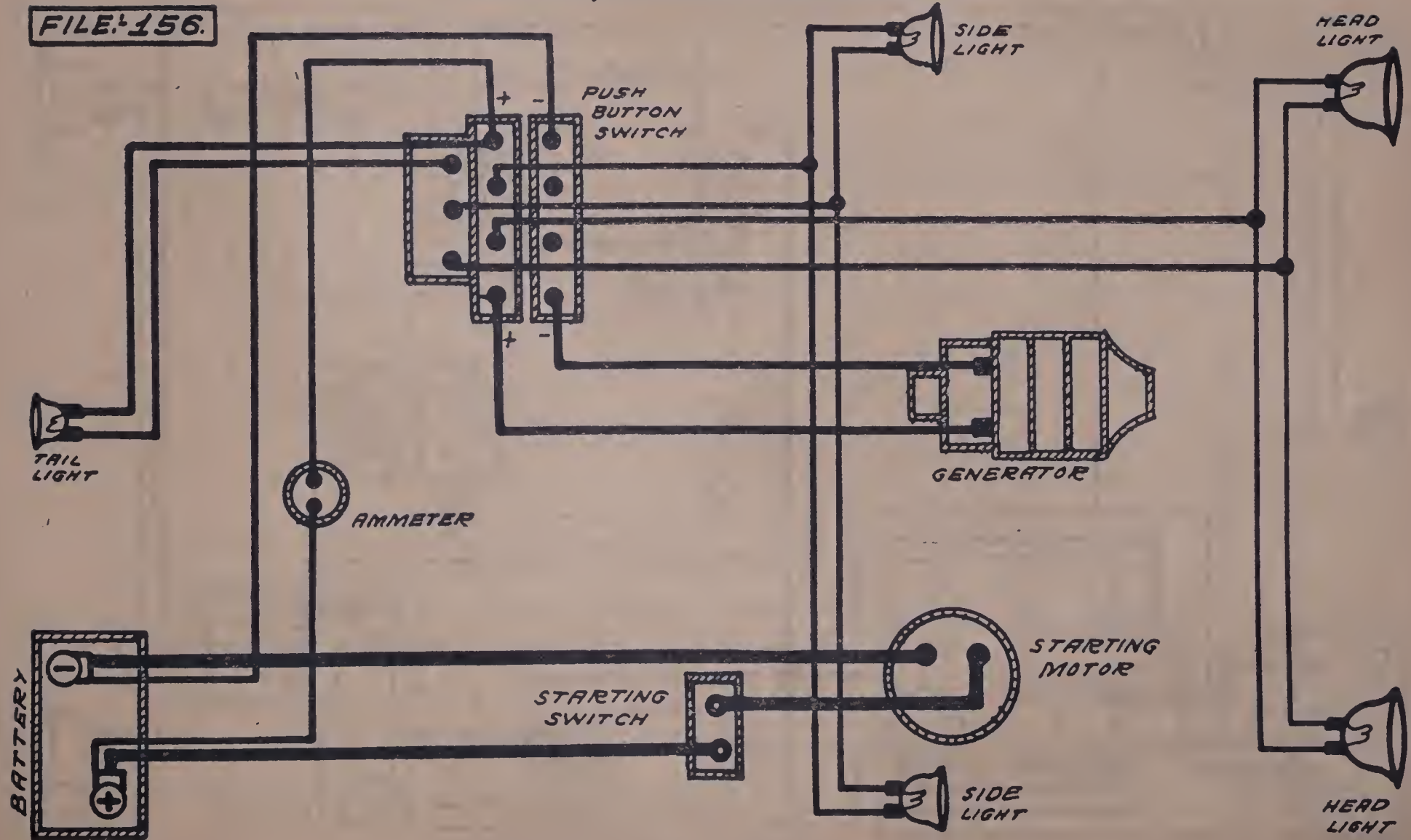
MODEL-WOLVERINE-349.

6-VOLT,- AUTOLITE SYSTEM.

FILE: 157.



JACKSON
1918,-1919-1920. -SULTANIC- MODEL-53.
6-VOLT,-AUTOLITE SYSTEM.



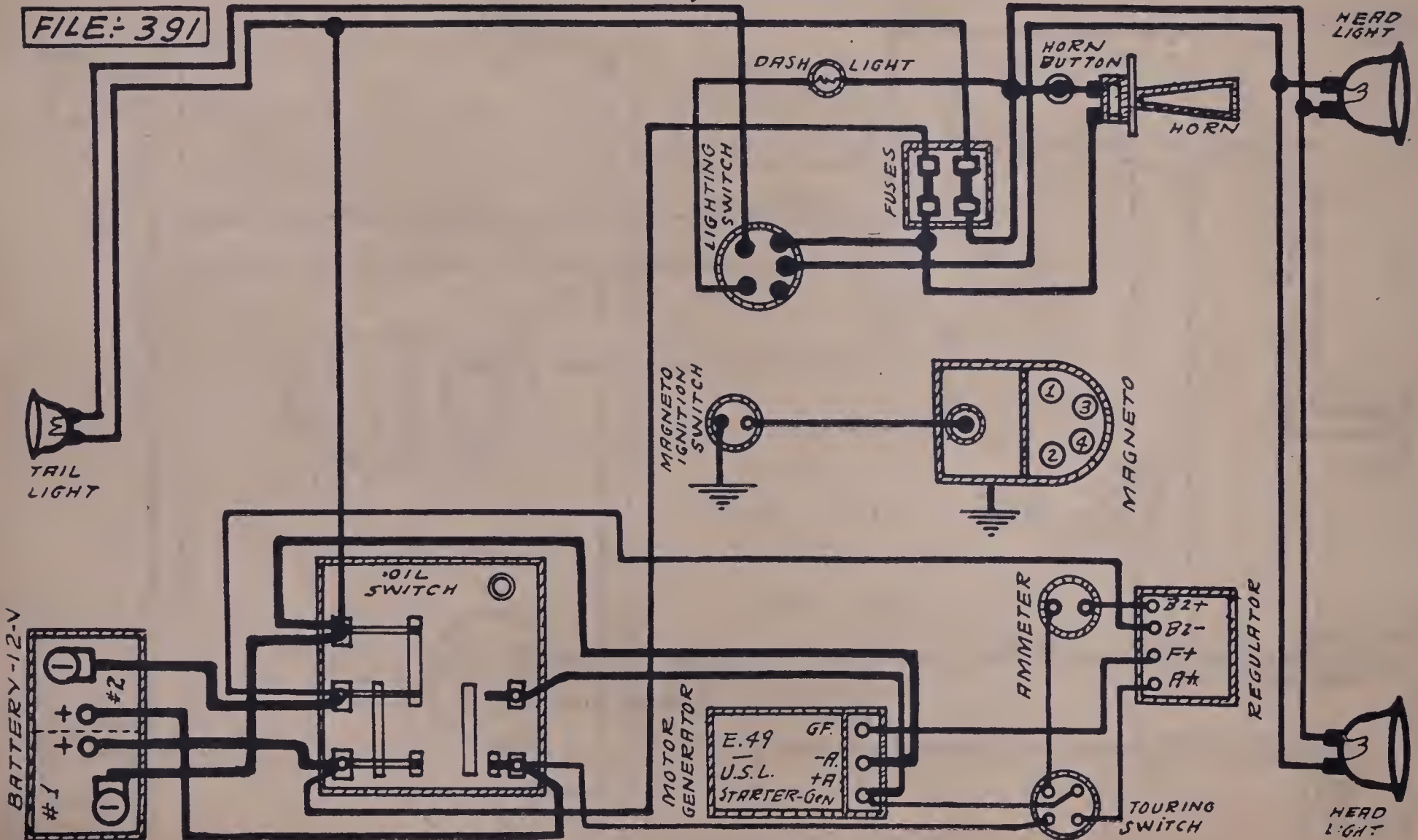
JEFFERY

1914-1915

MODEL FOUR

12-VOLT, - U.S.L. SYSTEM.

FILE: 391

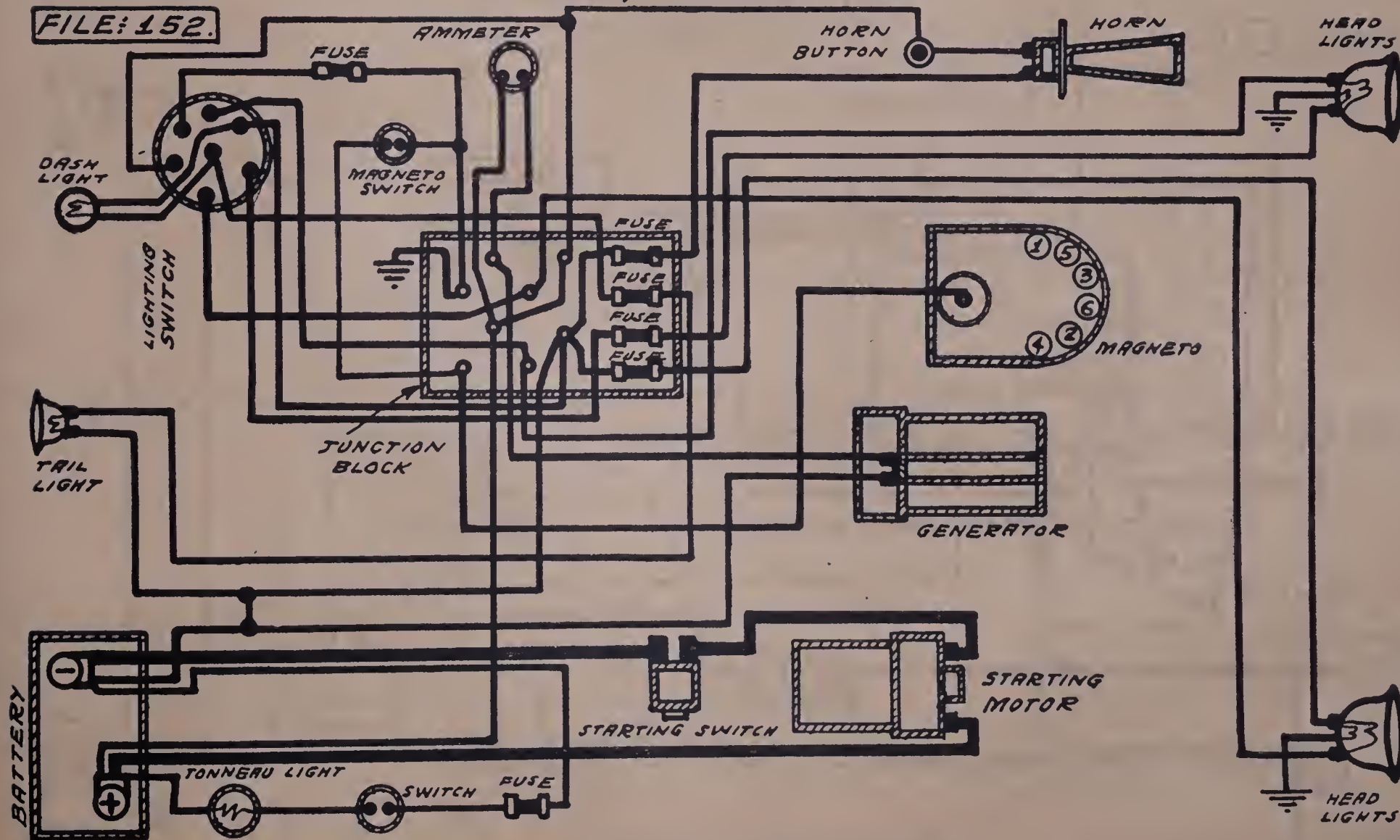


1915

JEFFERY

MODEL-CHESTERFIELD SIX

6-VOLT, -BITUR SYSTEM

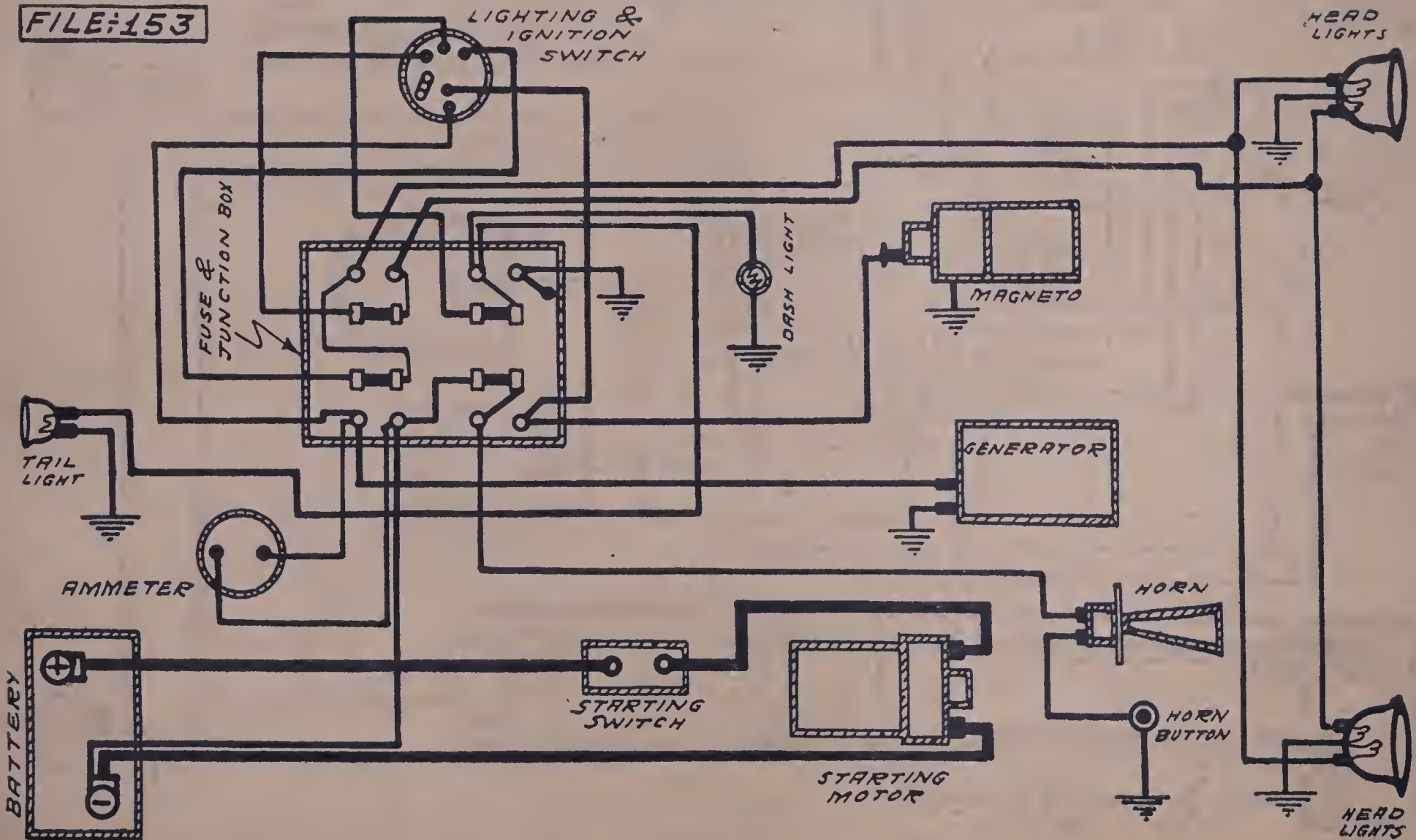


6-VOLT, -BIJUR SYSTEM.

MODELS 462, 661.

LIGHTING &
IGNITION
SWITCH

HEAD
LIGHTS



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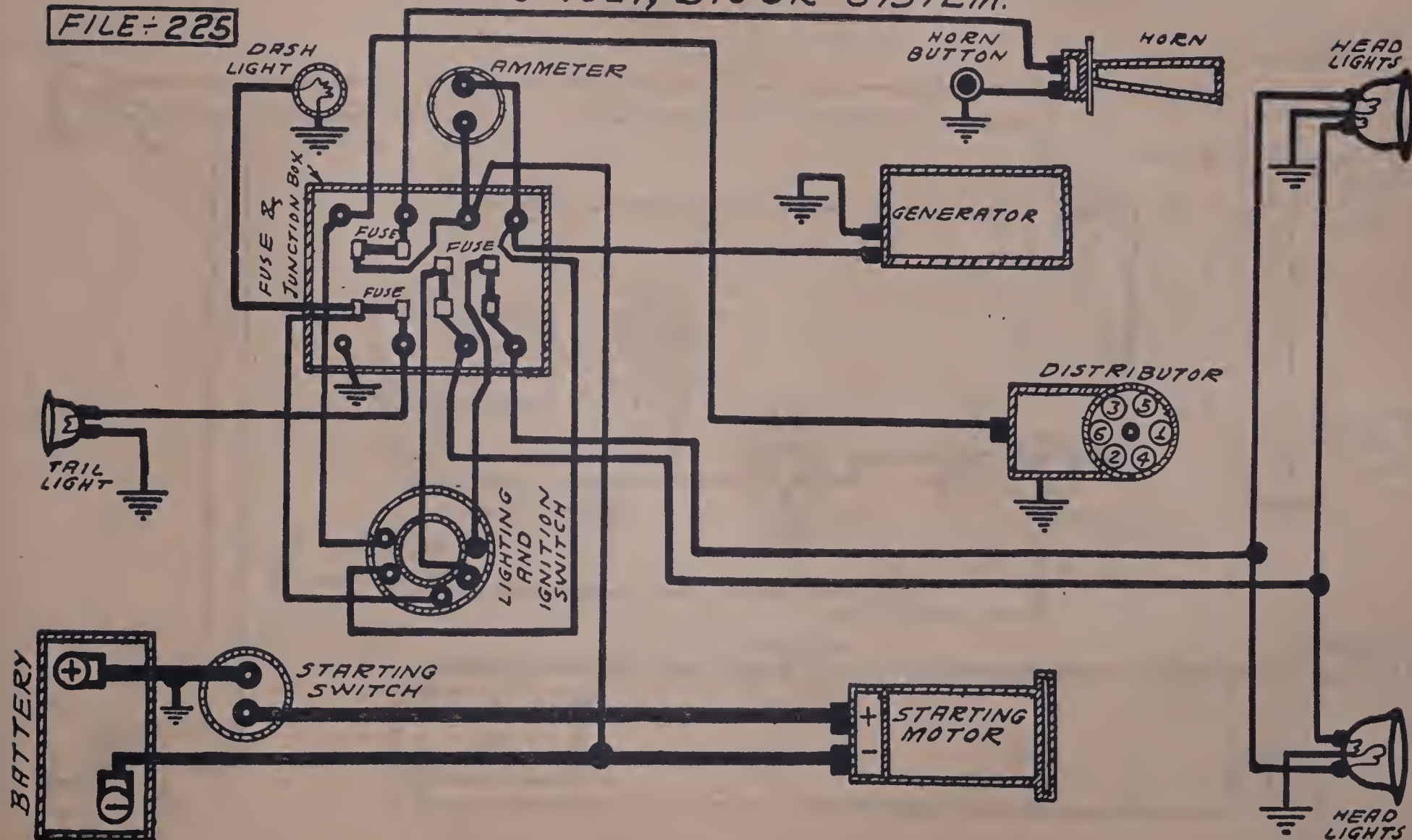
1917

JEFFERY

MODEL 671

6-VOLT, BIJUR SYSTEM.

FILE-225



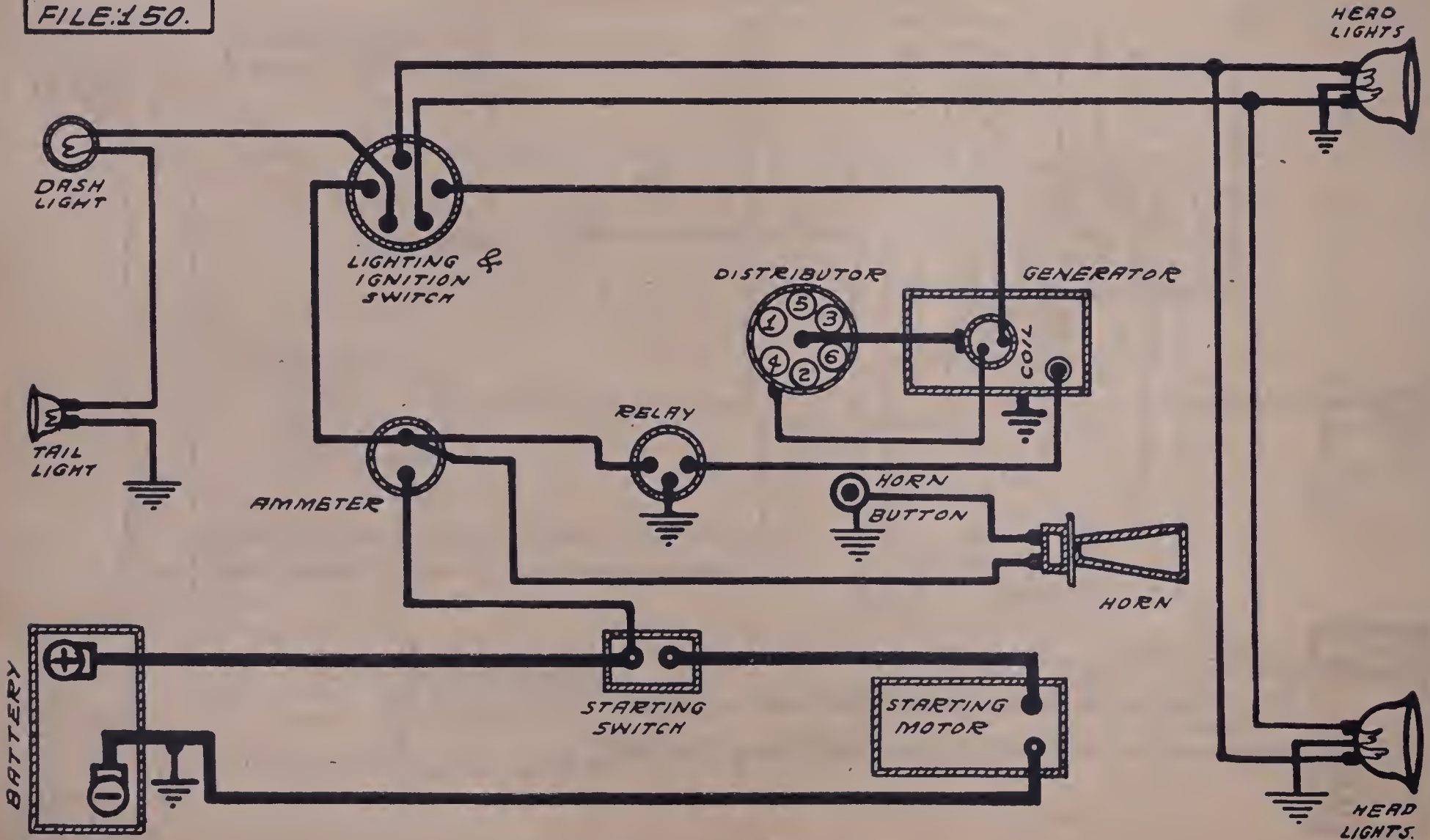
JONES

1917.

MODEL B-26.

6-VOLT, -AUTOLITE SYSTEM, - - REMY IGNITION.

FILE: 150.



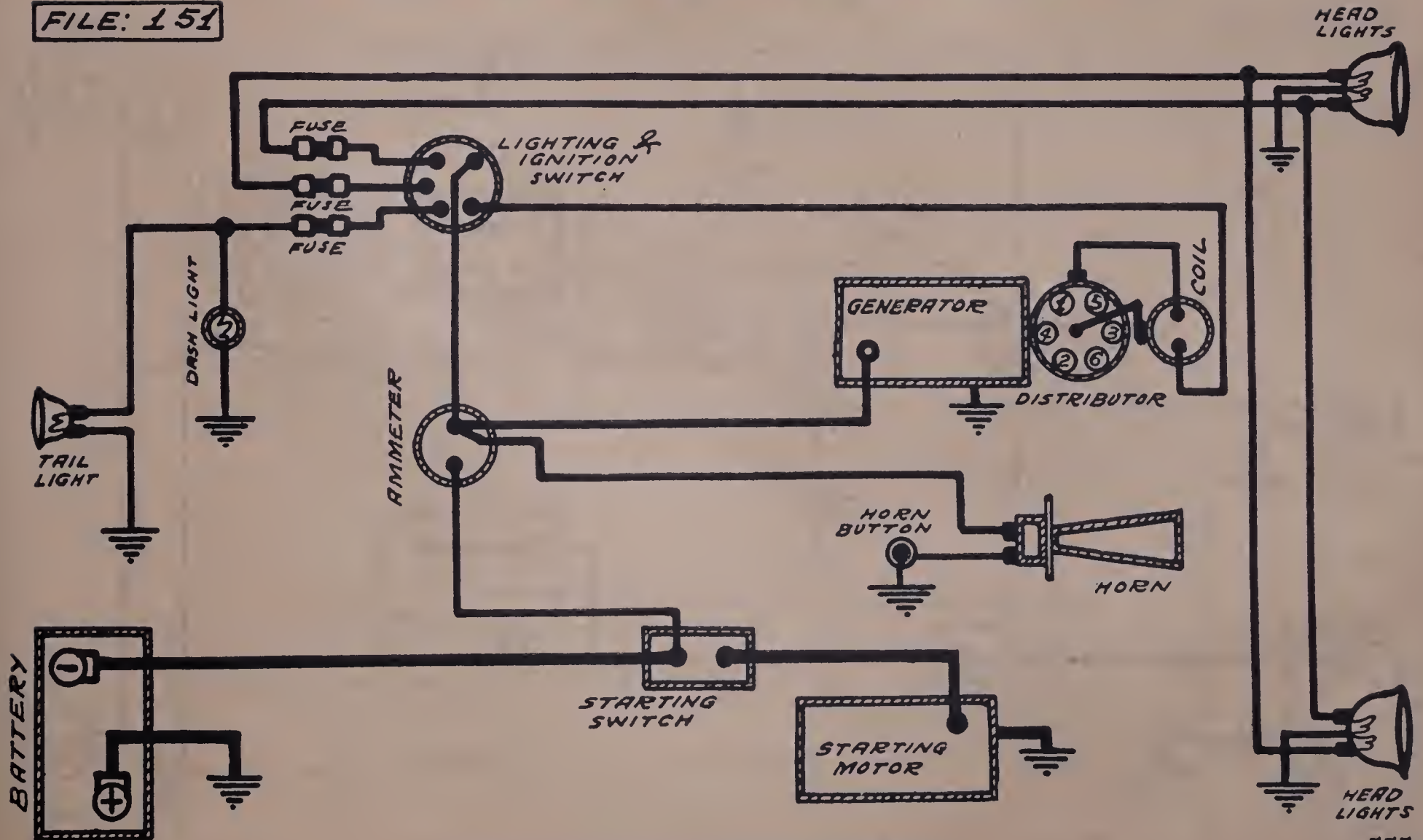
JONES

1918-1919.

MODEL 28.

6-VOLT, WESTINGHOUSE SYSTEM -- REMY IGNITION.

FILE: 151



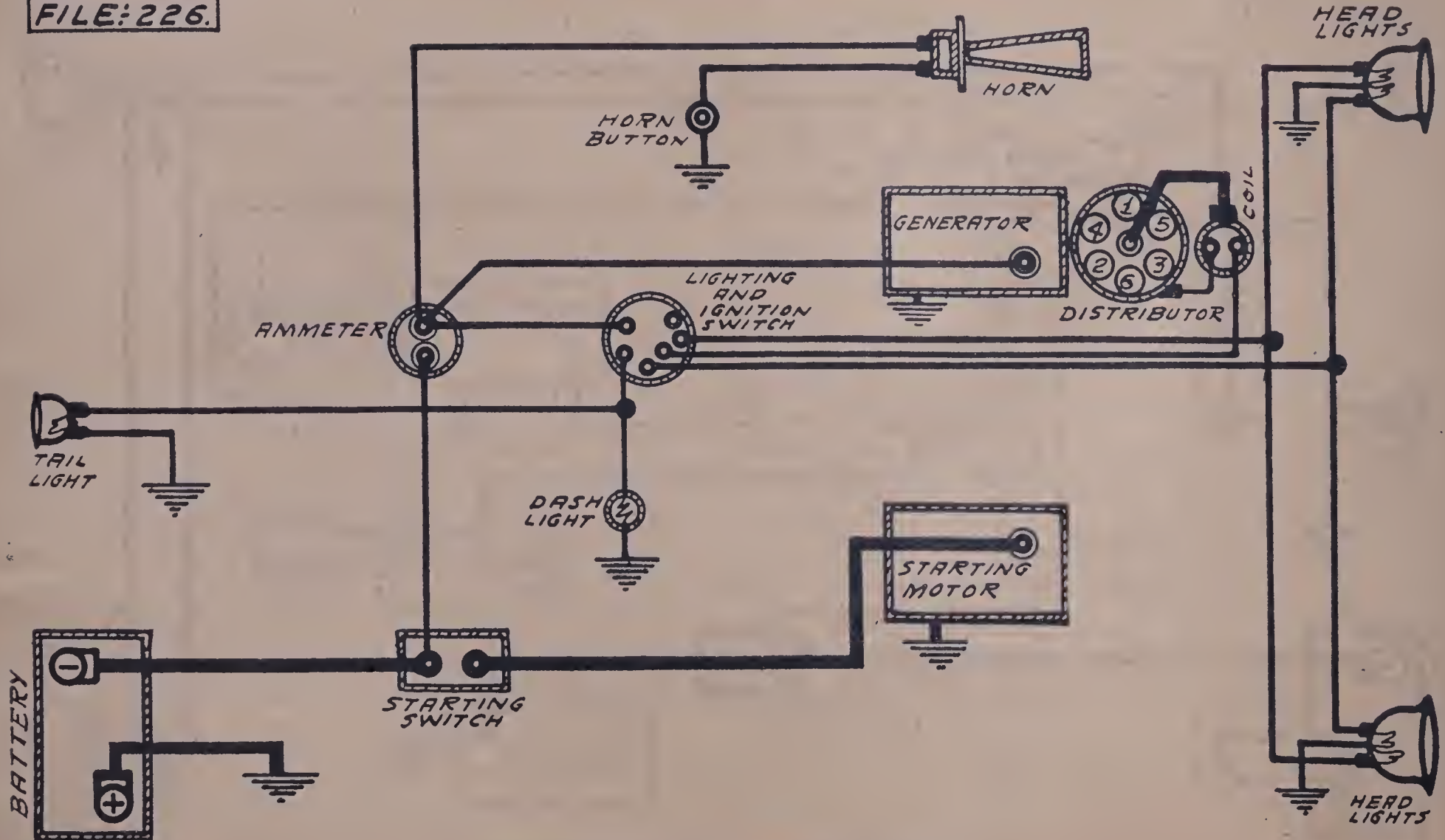
JONES

1920

MODELS 28-B, 28-E, 28-G.

6-VOLT, WESTINGHOUSE SYSTEM.

FILE: 226.

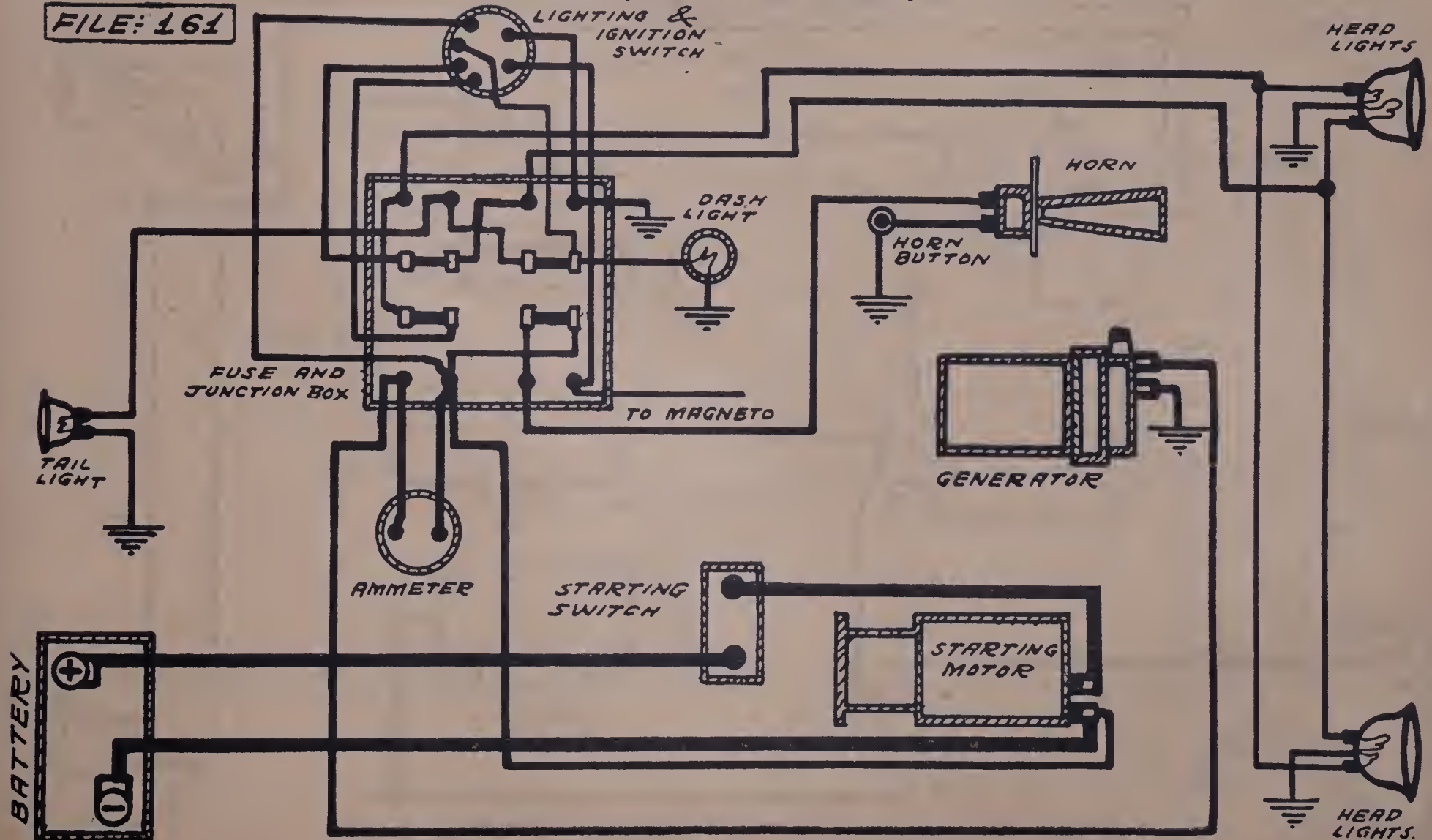


JORDAN

1917-

ALL MODELS.

6-VOLT, -BETUR SYSTEM.



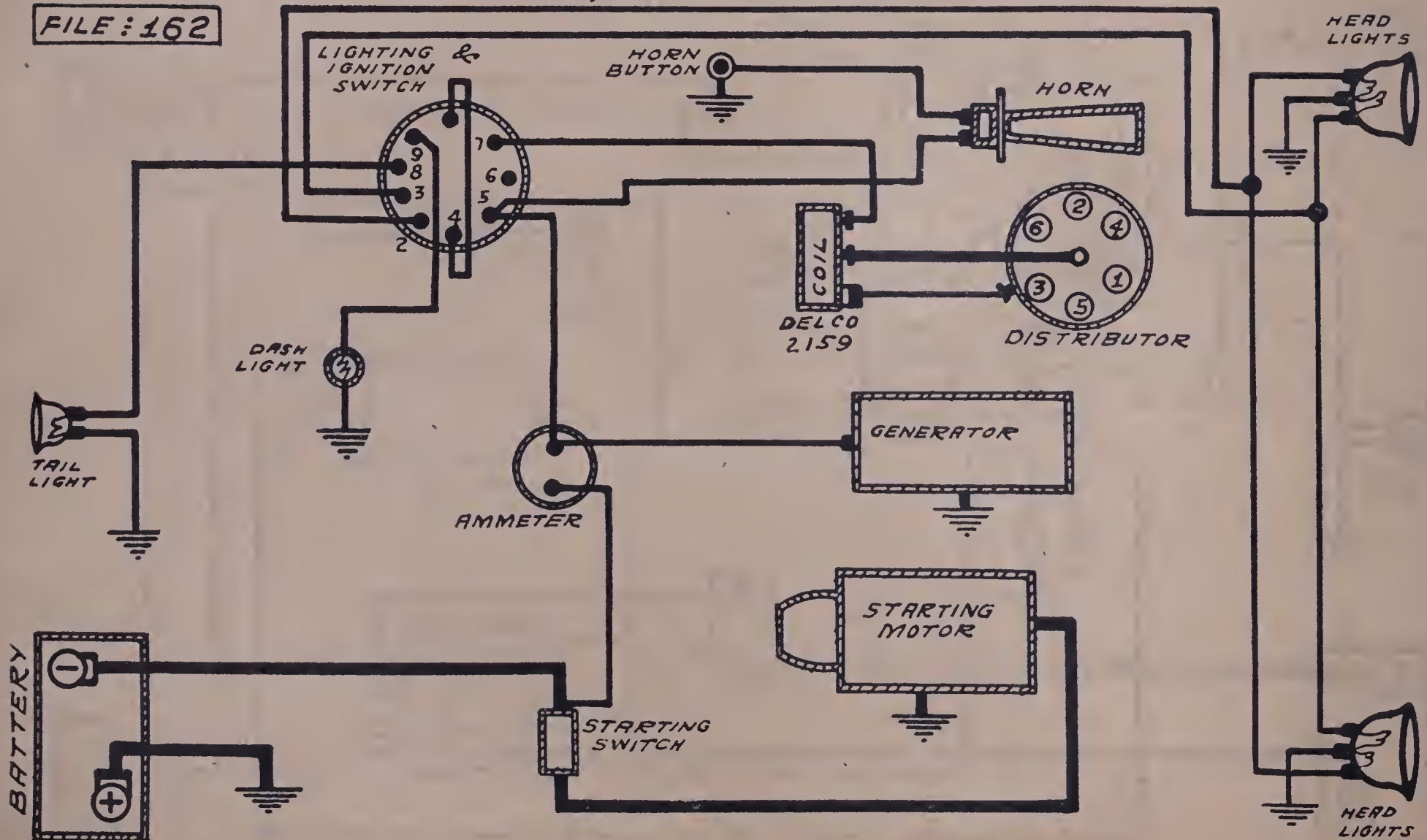
JORDAN

1918, MODEL-C.

1919 MODEL F.

6-VOLT, -BIJUR SYSTEM

FILE: 162

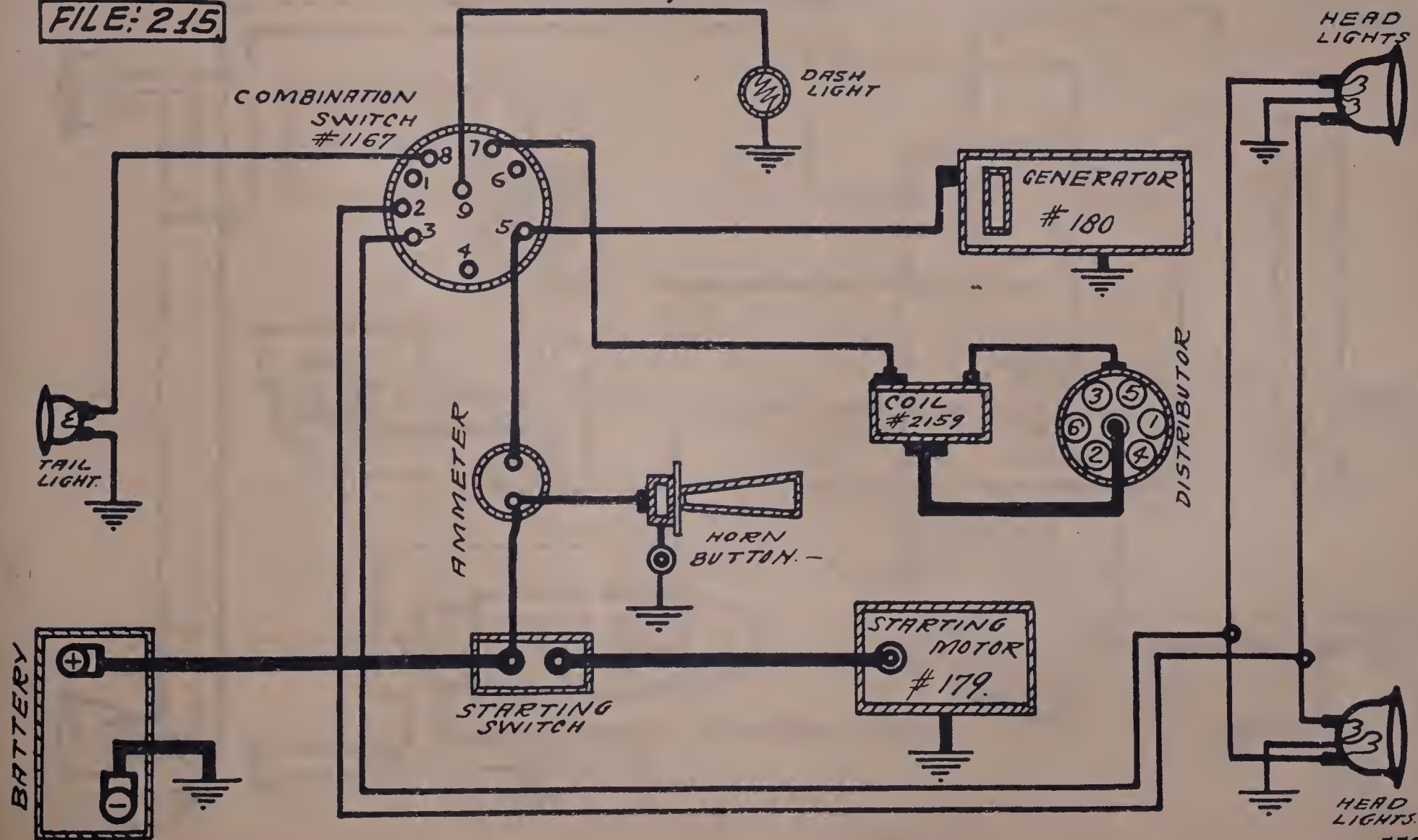


1920

JORDAN

SERIES 2- MODEL F.
6-VOLT, DELCO SYSTEM.

FILE: 215



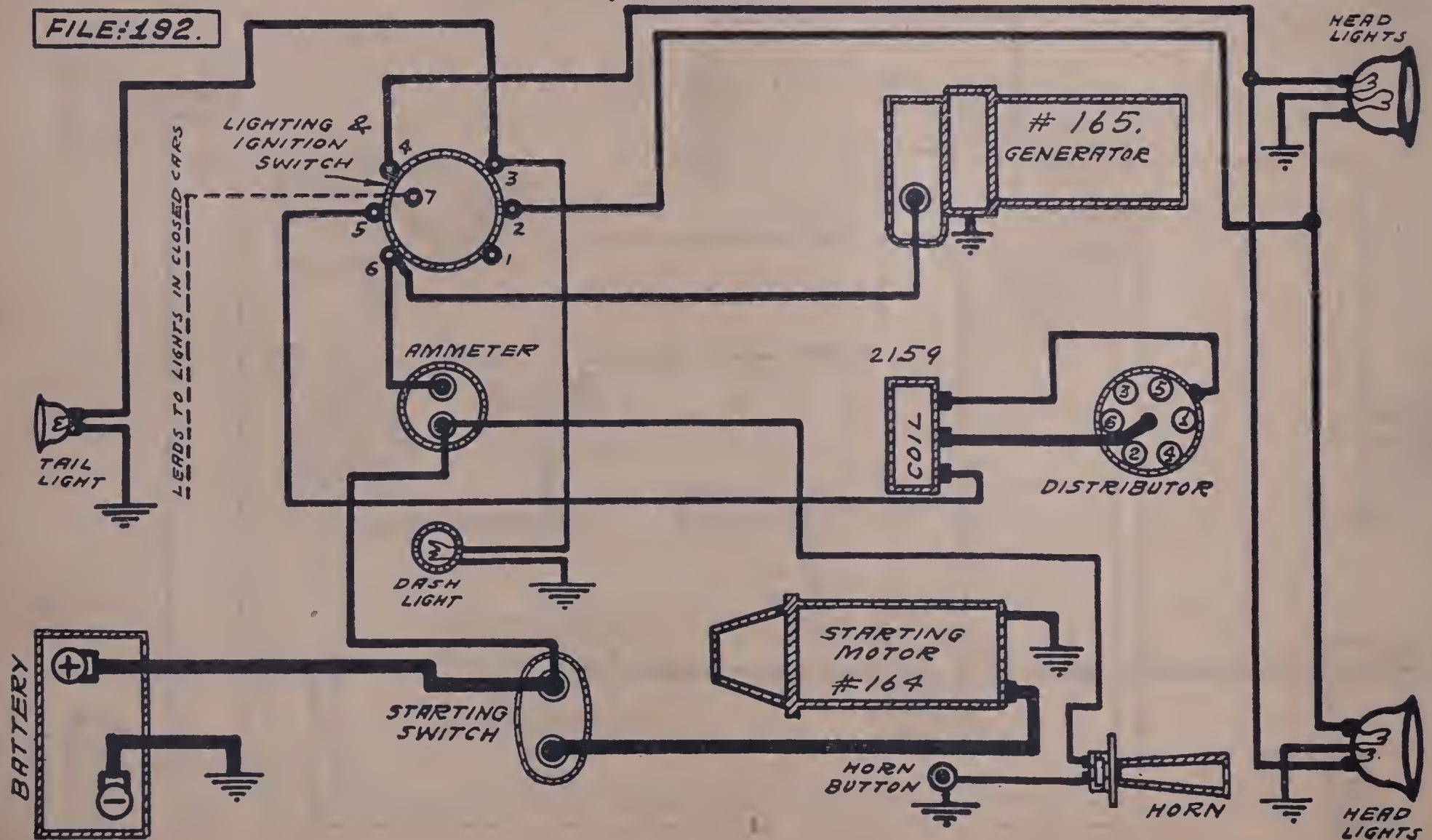
JORDAN

1920

MODEL - M.

6-VOLT, DELCO SYSTEM.

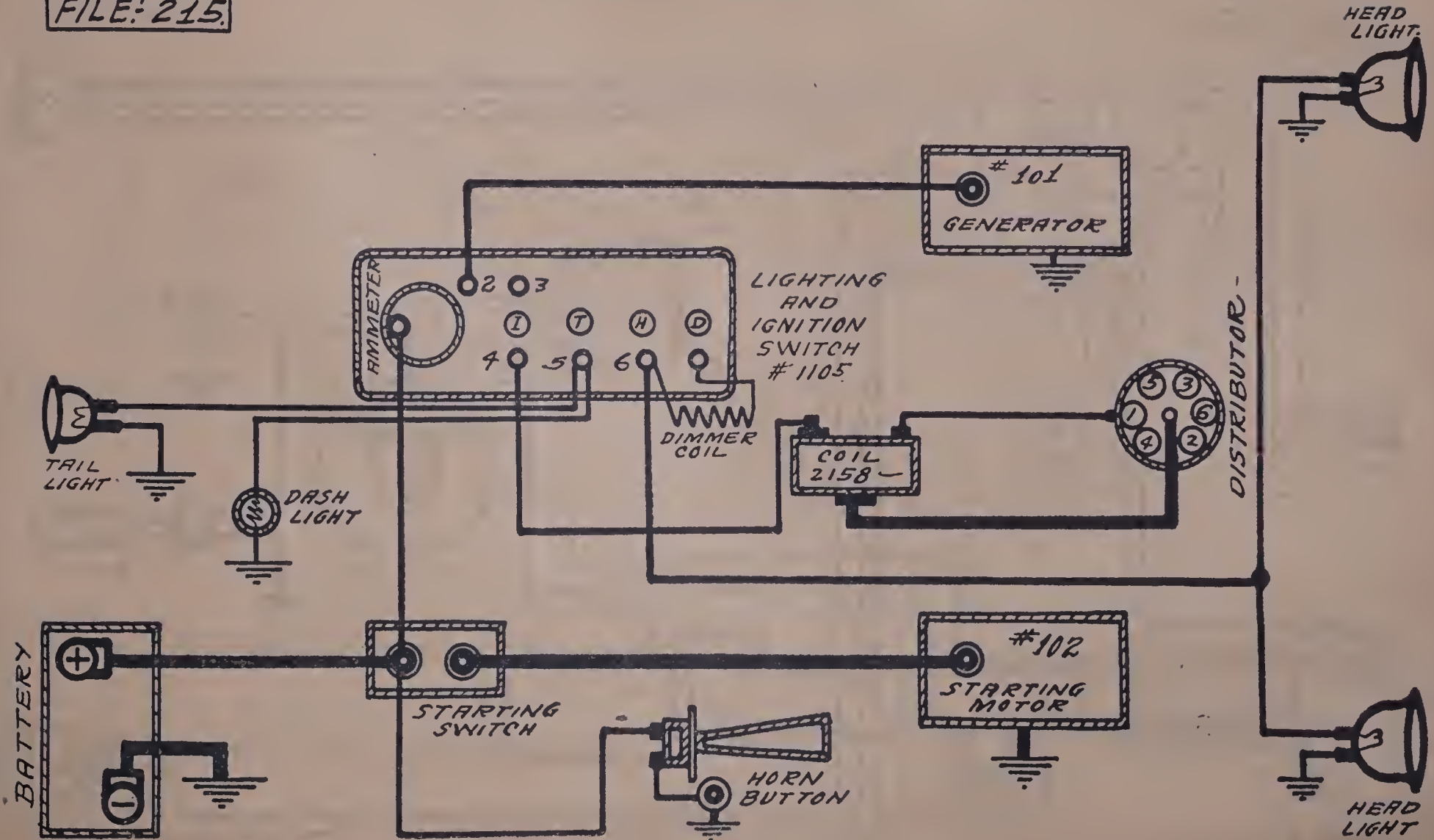
FILE: 192.



KANKAKEE

1919 MODEL - USING 7N CONTINENTAL ENGINE
6-VOLT, -DELCO SYSTEM.

FILE: 215.



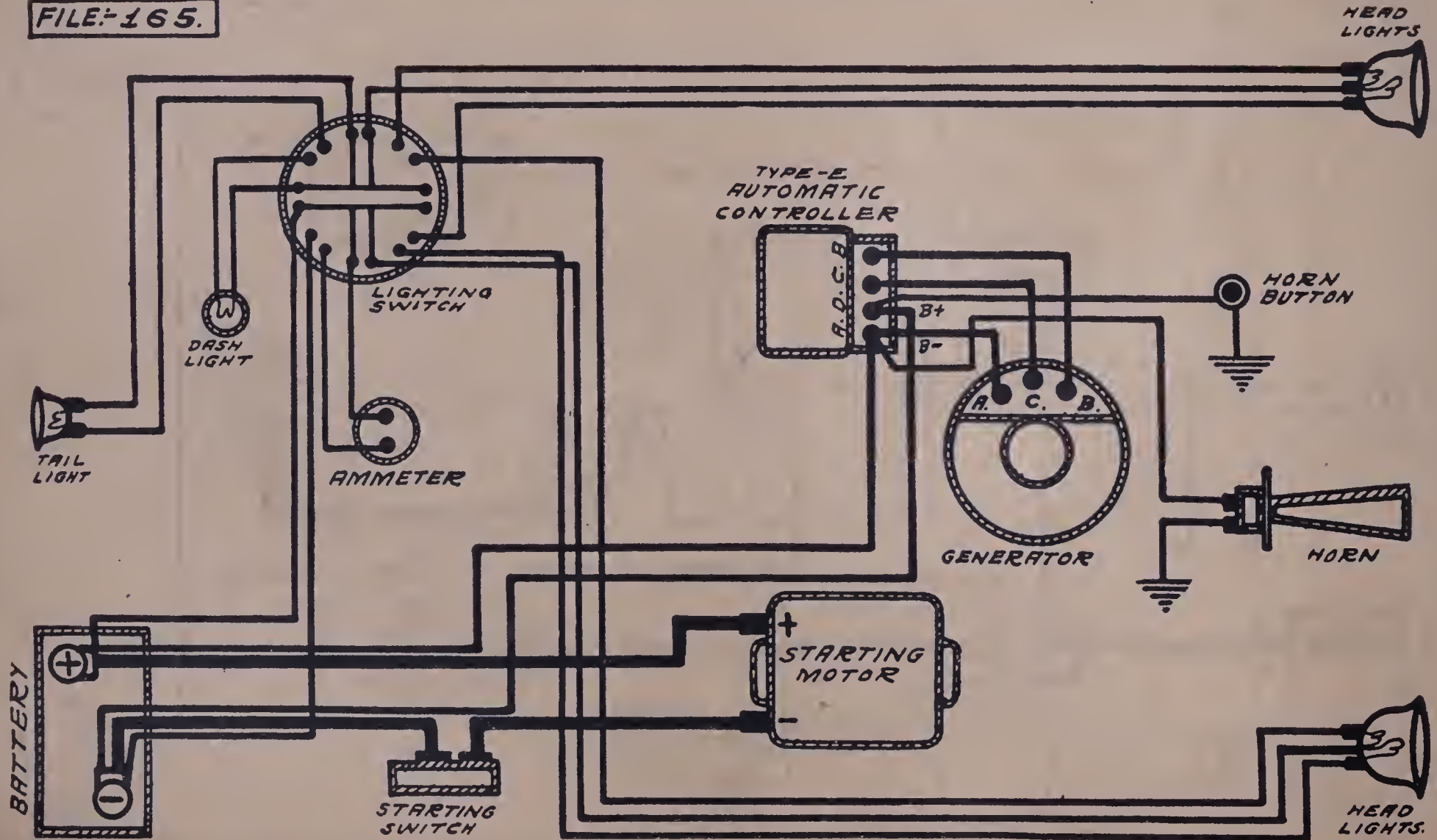
KING

1915.

MODEL-C.

6-VOLT,-WARD-LEONARD SYSTEM.

FILE-165.



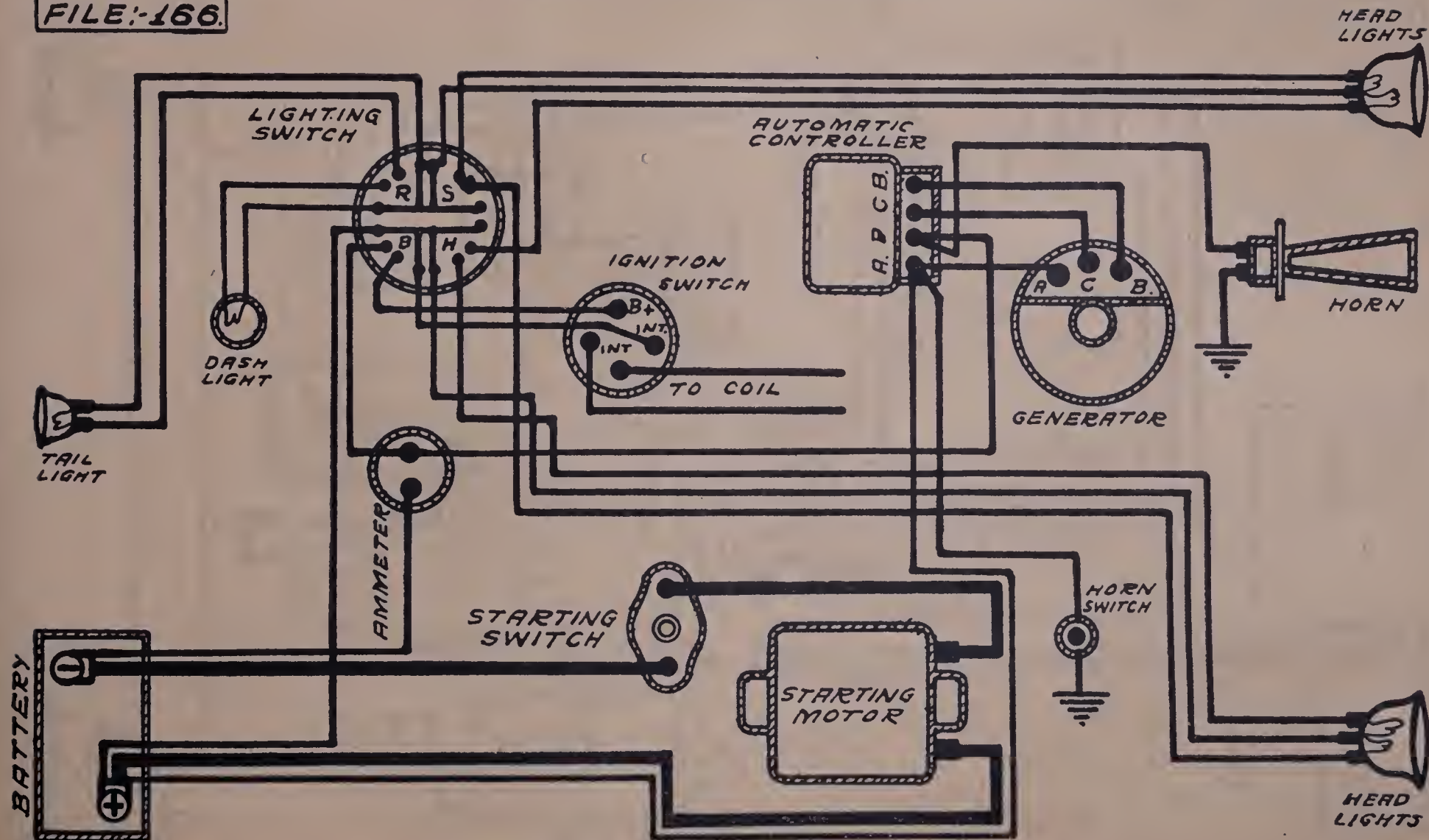
1915.

KING

MODEL - D.

6-VOLT, -WARD-LEONARD SYSTEM.

FILE:-166.



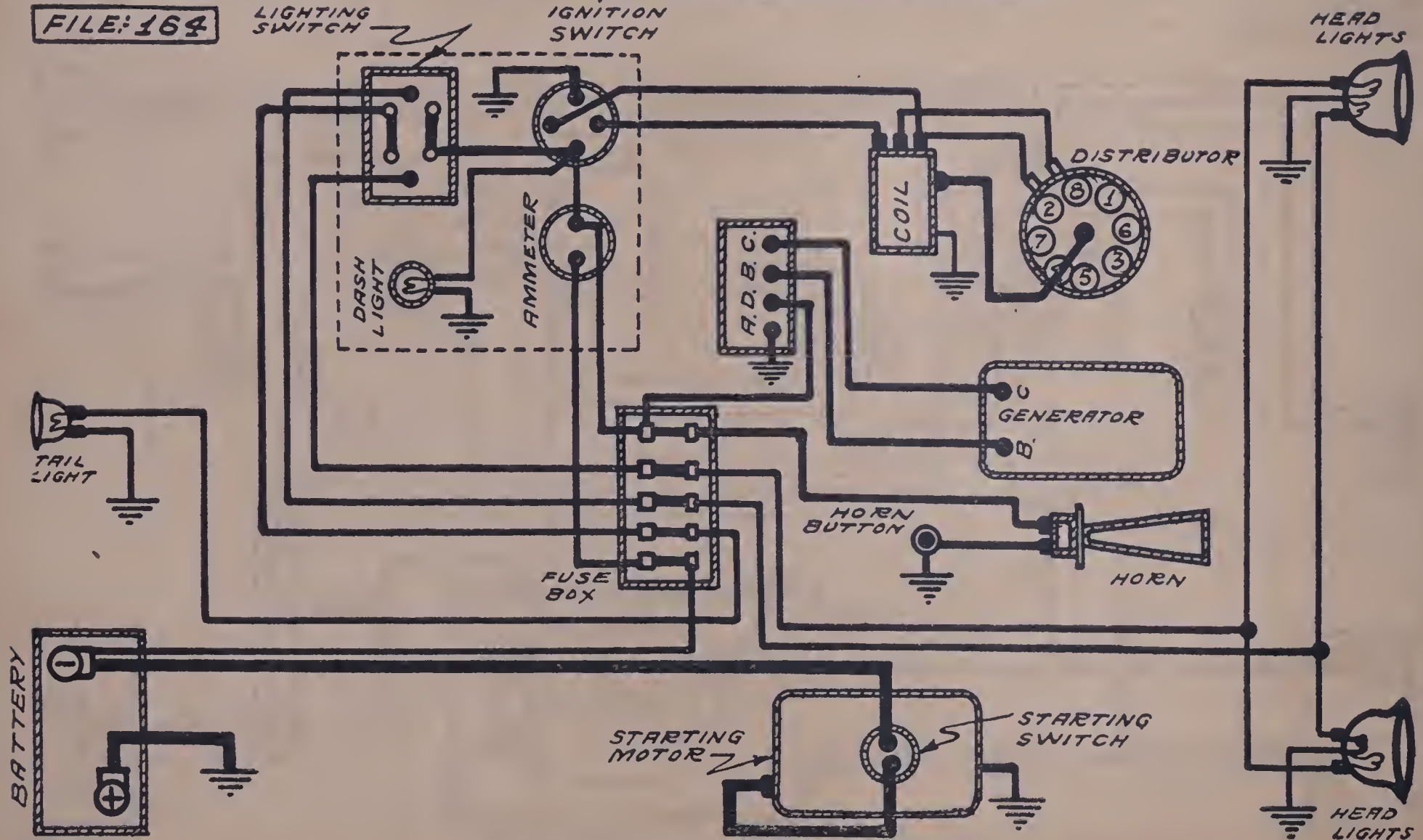
KING

1916.

MODEL-E

6-VOLT, WARD-LEONARD SYSTEM.

FILE: 164



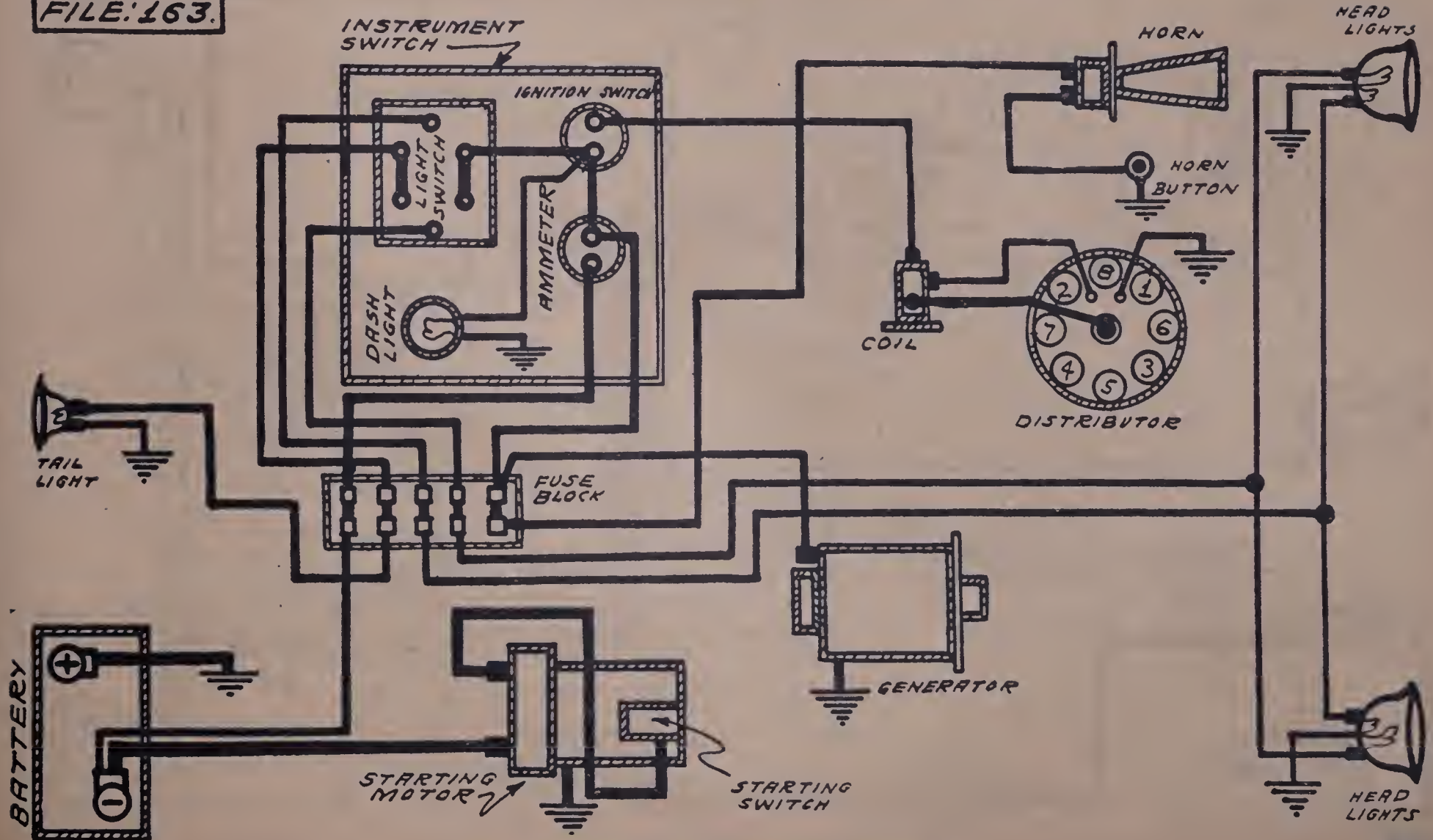
KING

1917-1918

MODEL E-E, F.

6-VOLT, -BIJUR SYSTEM.

FILE: 163.



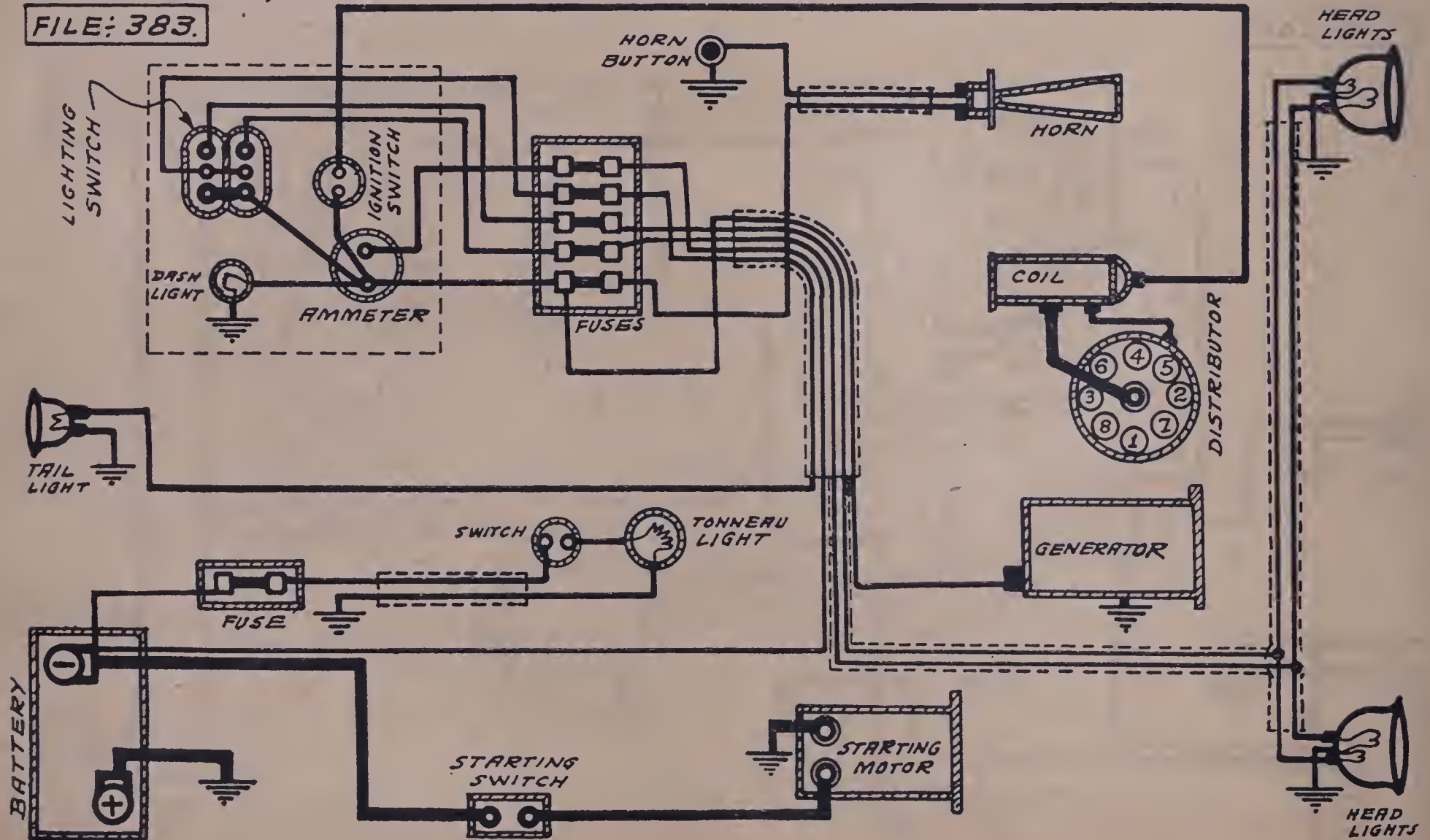
KING

1919-1920

MODEL-H.

6-VOLT, - WESTINGHOUSE SYSTEM. - ATWATER-KENT IGNITION.

FILE: 383.

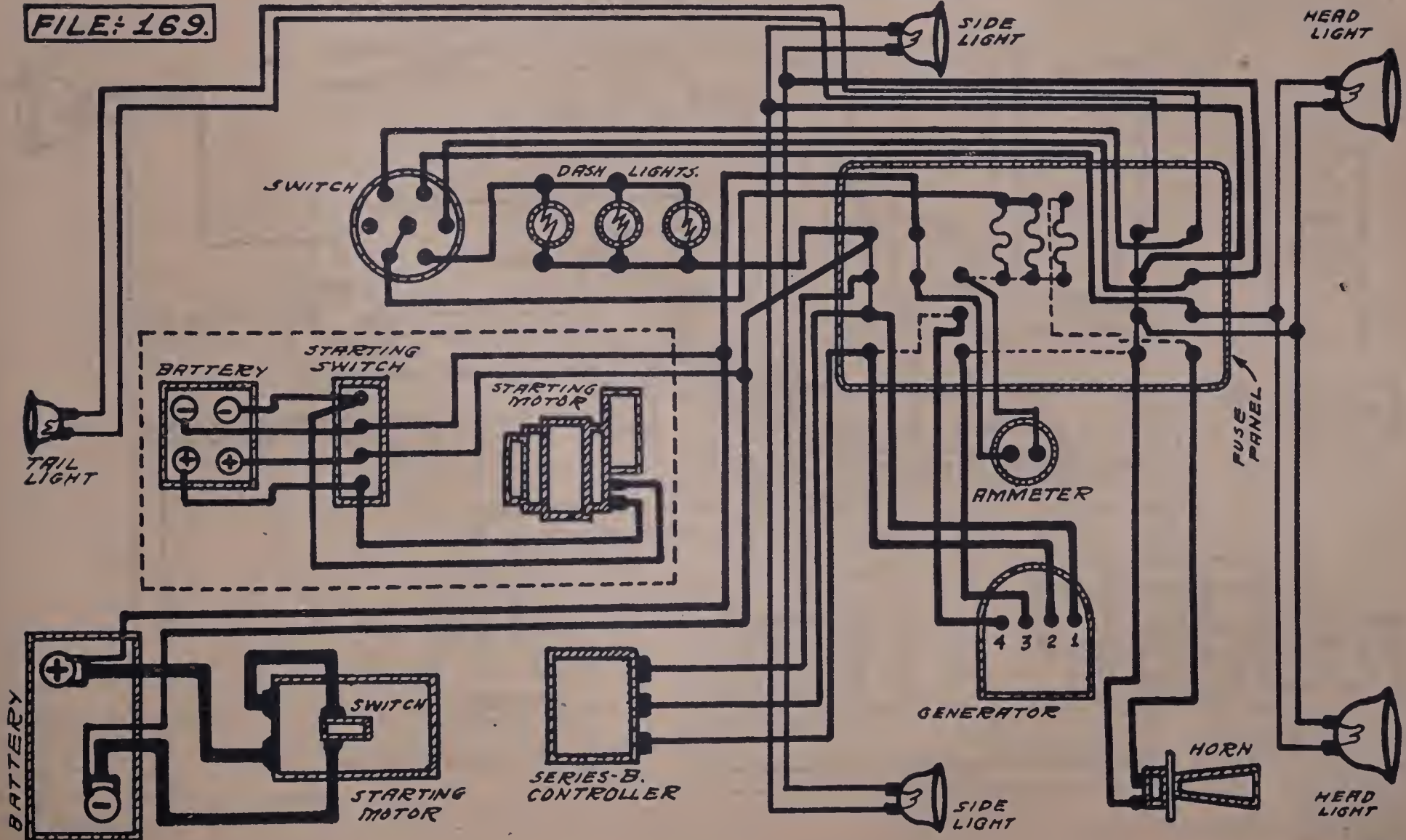


KISSEL KAR

1913, MODELS - F-13, -H-13, D-13, L-D-13.

1914, MODELS, F-14, G-48.

6-VOLT, ESTERLINE SYSTEM.



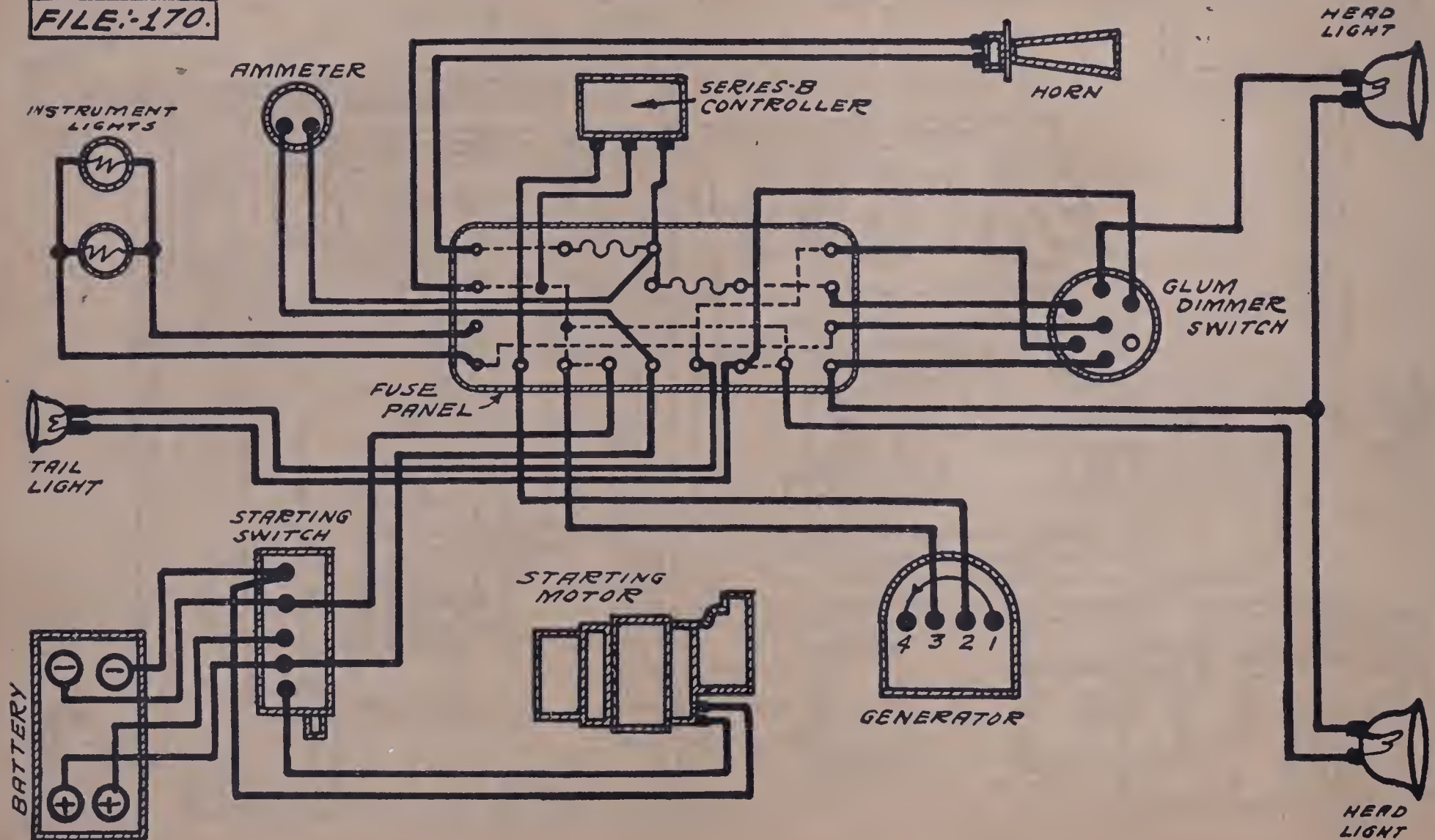
KISSEL KAR.

1914

MODEL, H-14.

12-VOLT, ESTERLINE SYSTEM.

FILE:-170.

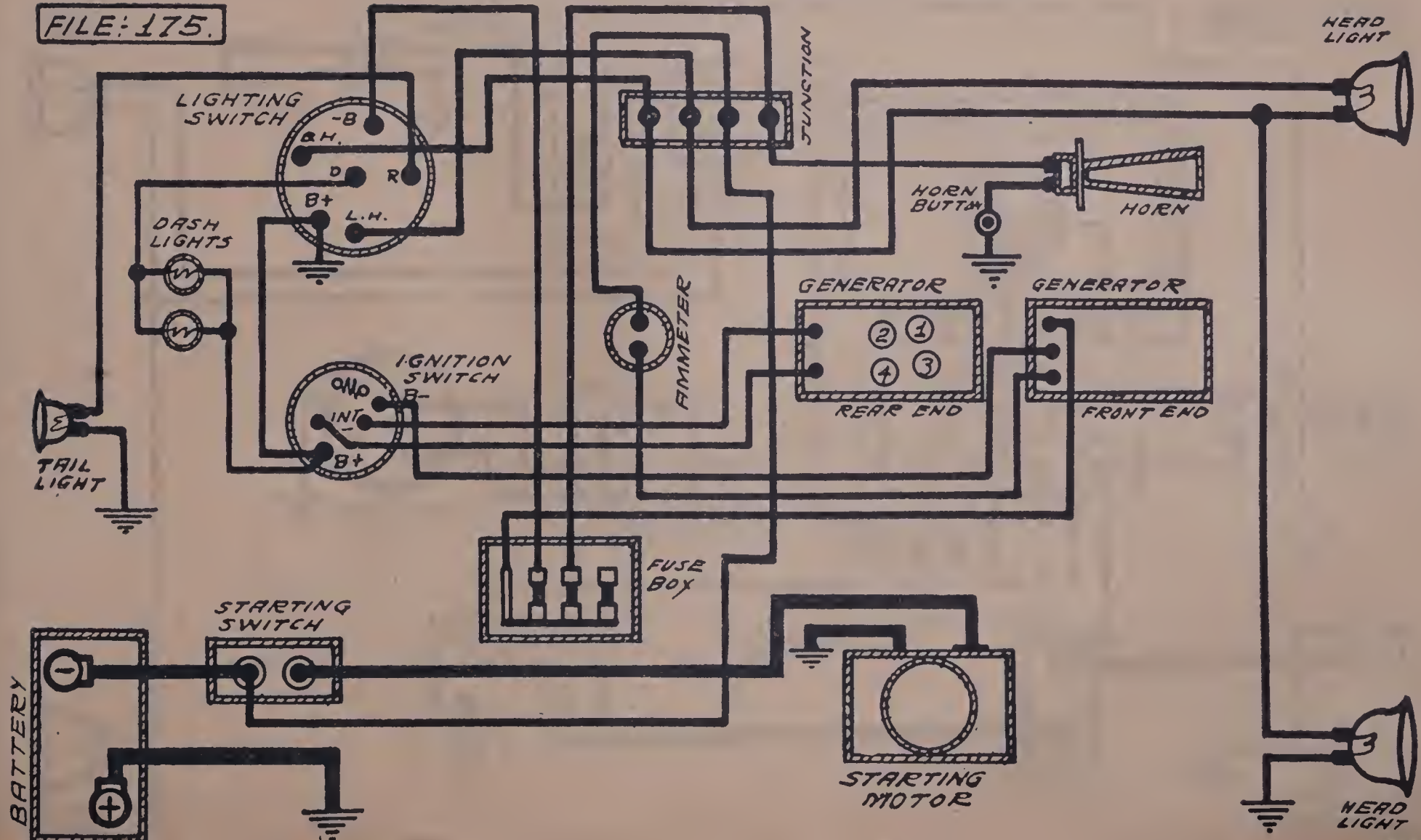


KISSEL KAR

1915

MODEL 36.

6-VOLT, WESTINGHOUSE SYSTEM.



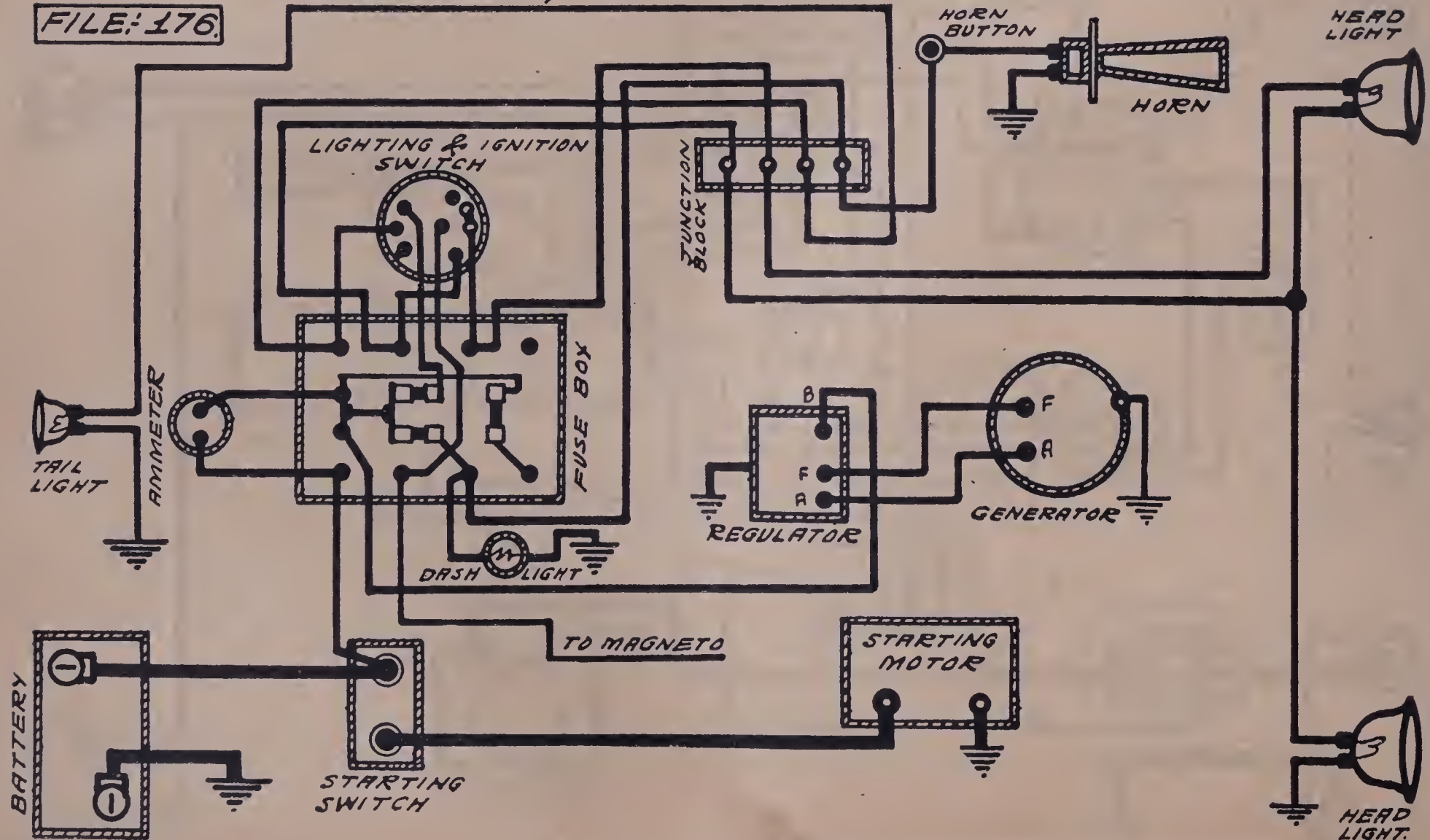
KISSEL KAR

1916.

MODEL 42-6.

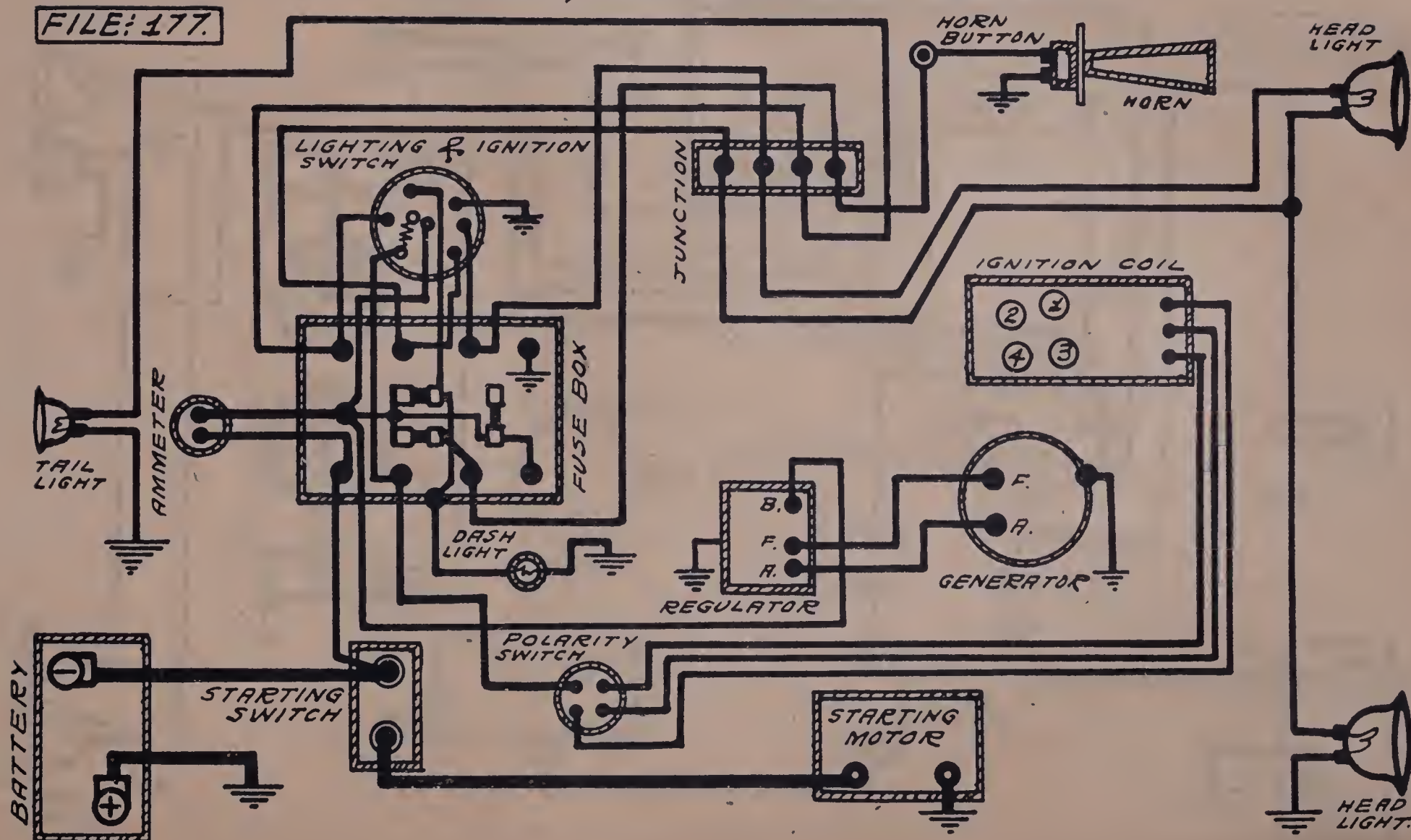
6-VOLT, WESTINGHOUSE SYSTEM.

FILE: 176.



KISSEL KAR

1916 - MODEL-32 - SHOWING POLARITY SWITCH.
6-VOLT, -WESTINGHOUSE SYSTEM.

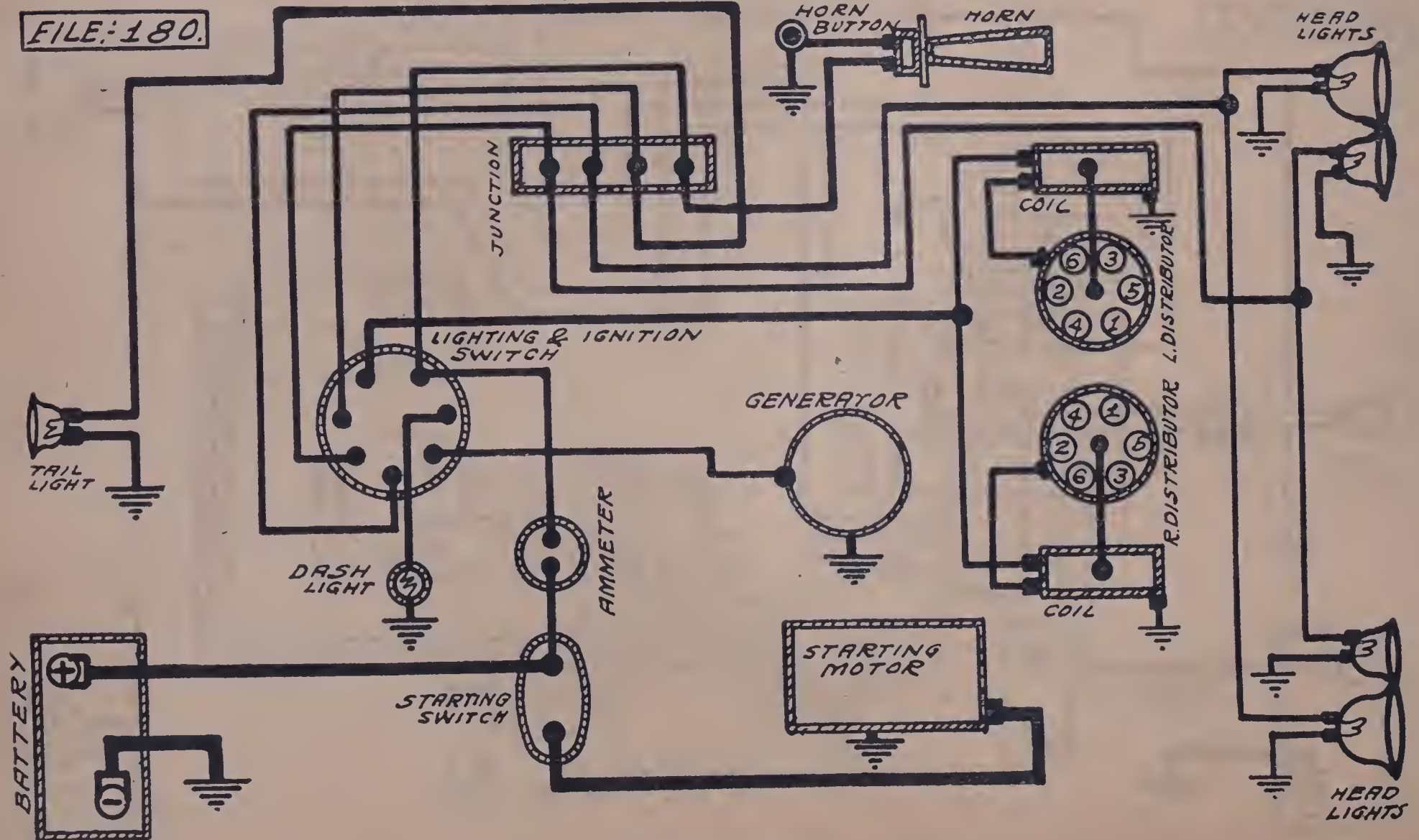


KISSEL KAR

MODEL-DOUBLE SIX.
6-VOLT, -WESTINGHOUSE SYSTEM.

1917-1918

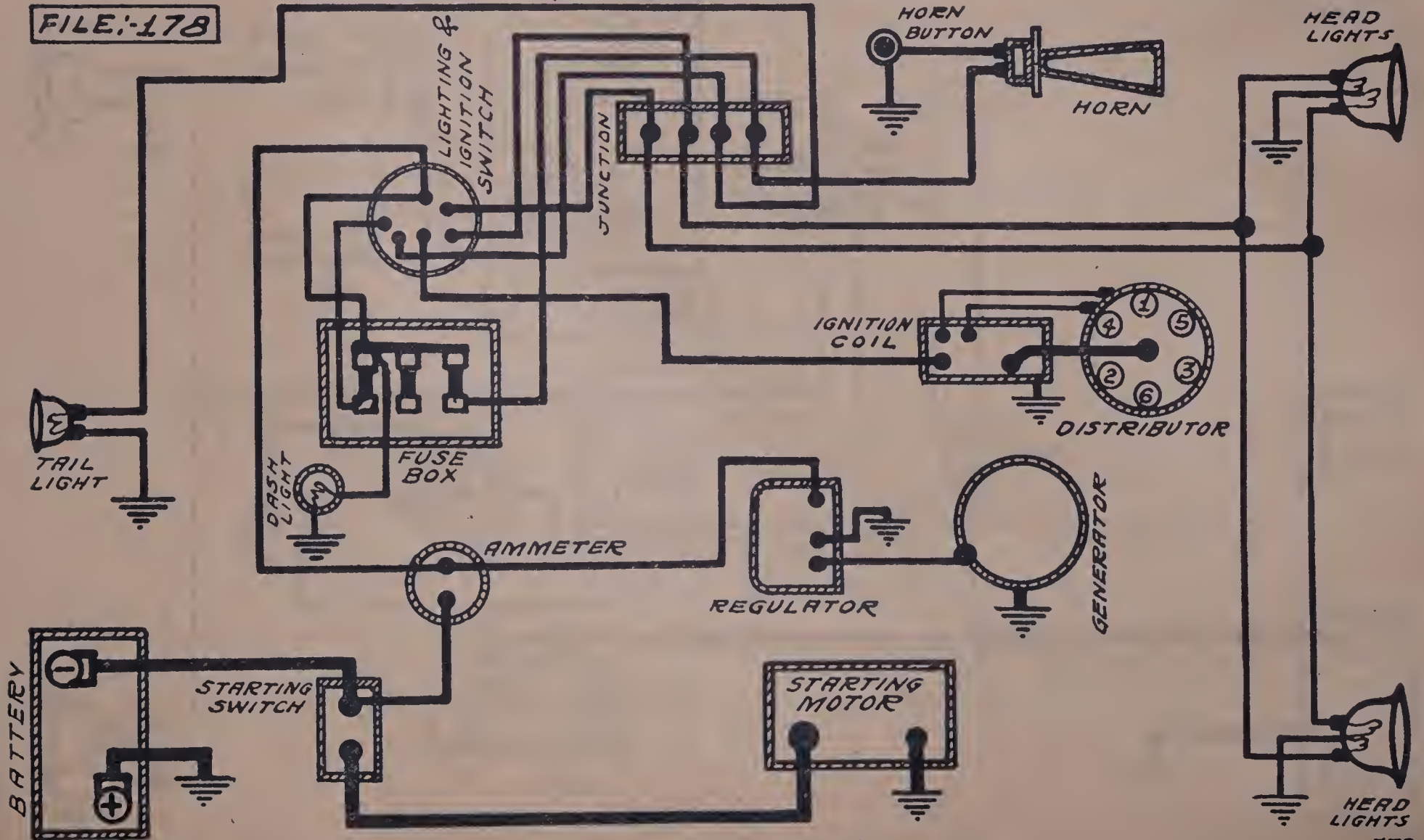
FILE: 180.



KISSEL KAR

1918-HUNDRED POINT SIX-1919-1920-CUSTOM BUILT.

6-VOLT, REMY SYSTEM.



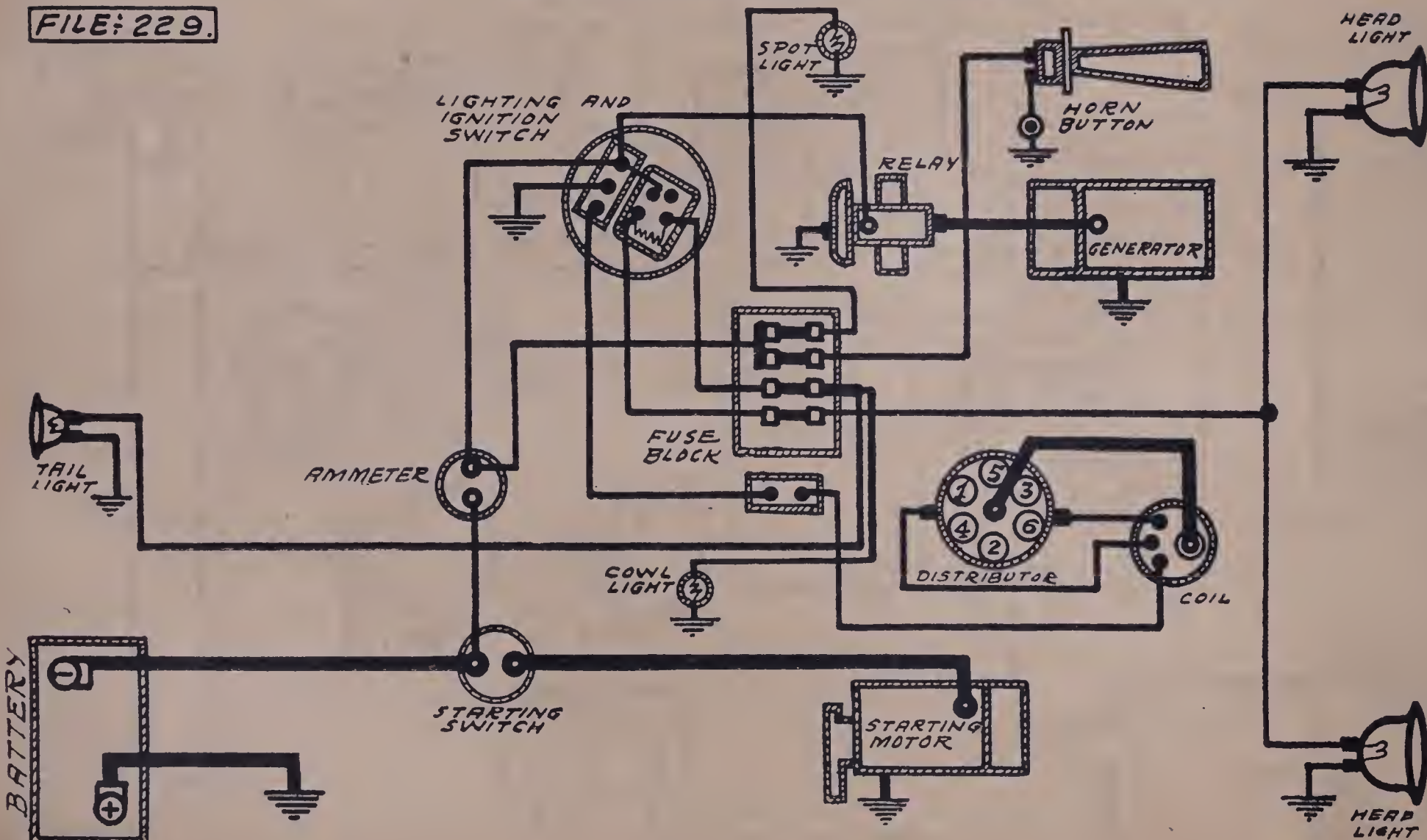
KLINE-KAR

1919-1920

MODEL 6-55.

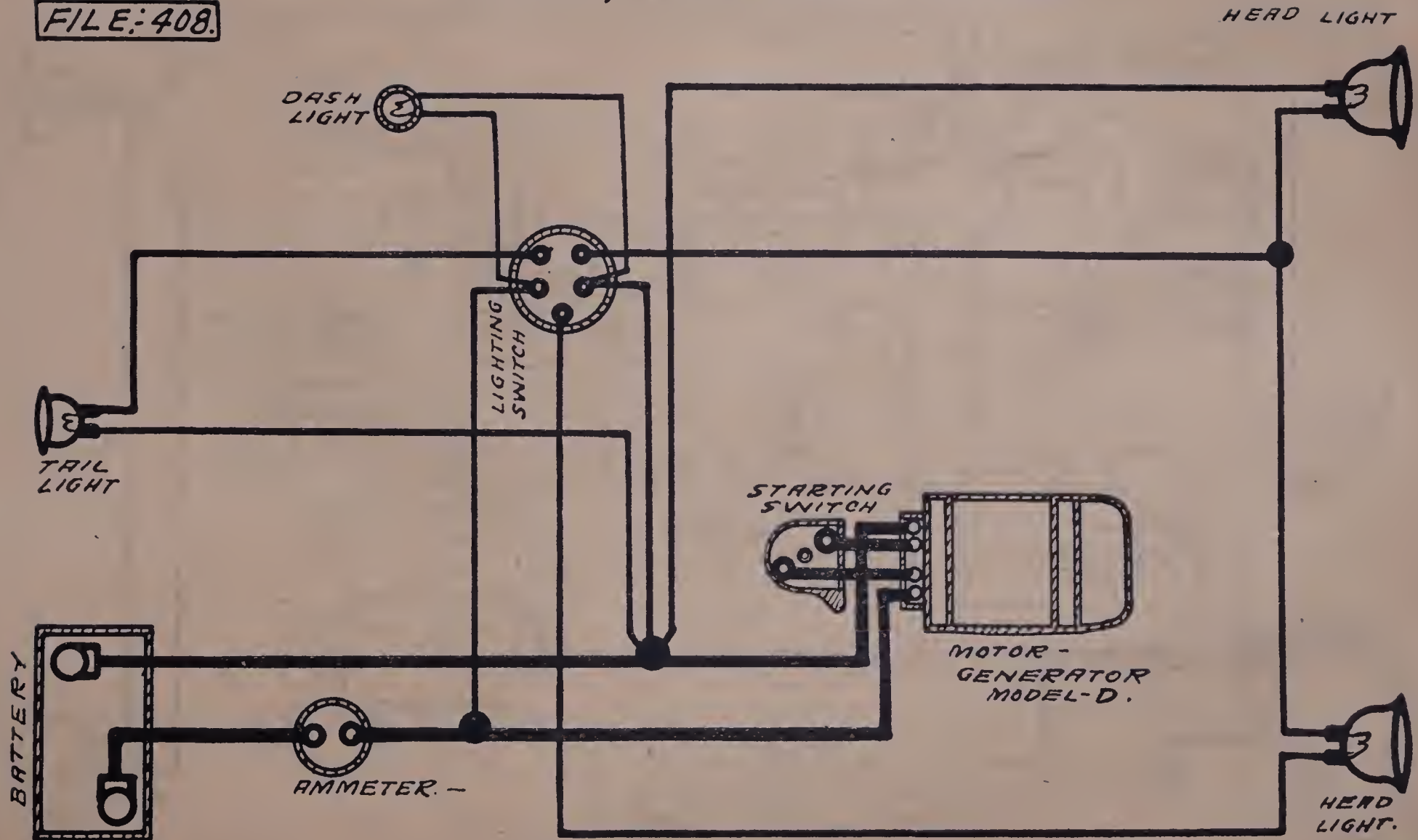
6-VOLT, -WESTINGHOUSE SYSTEM.

FILE: 229.



KRIT
1915 - MODEL
12-VOLT, NORTH EAST SYSTEM.

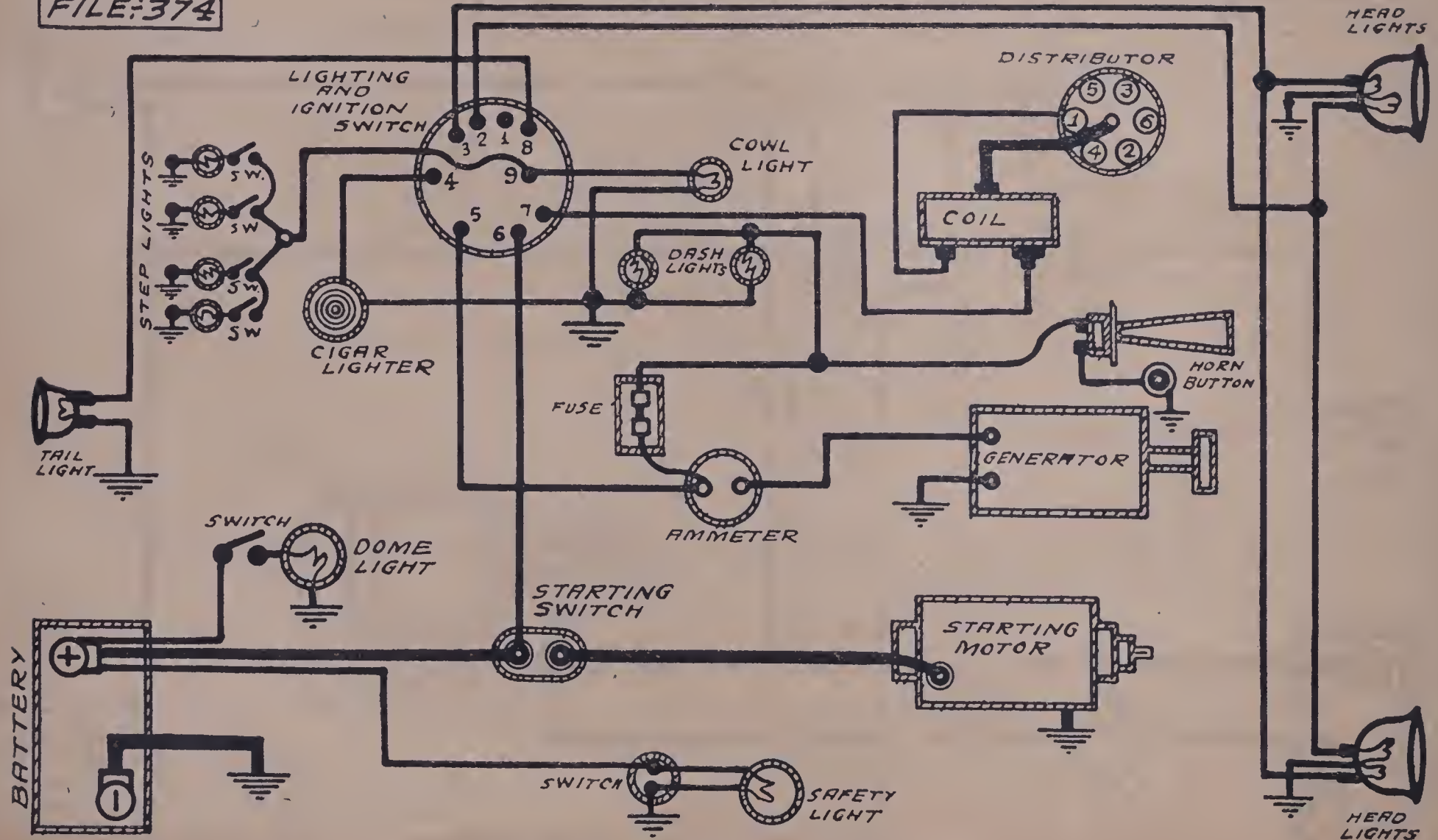
FILE: 408.



LEACH

1920 MODEL-20.
6-VOLT, DELCO SYSTEM.

FILE:374

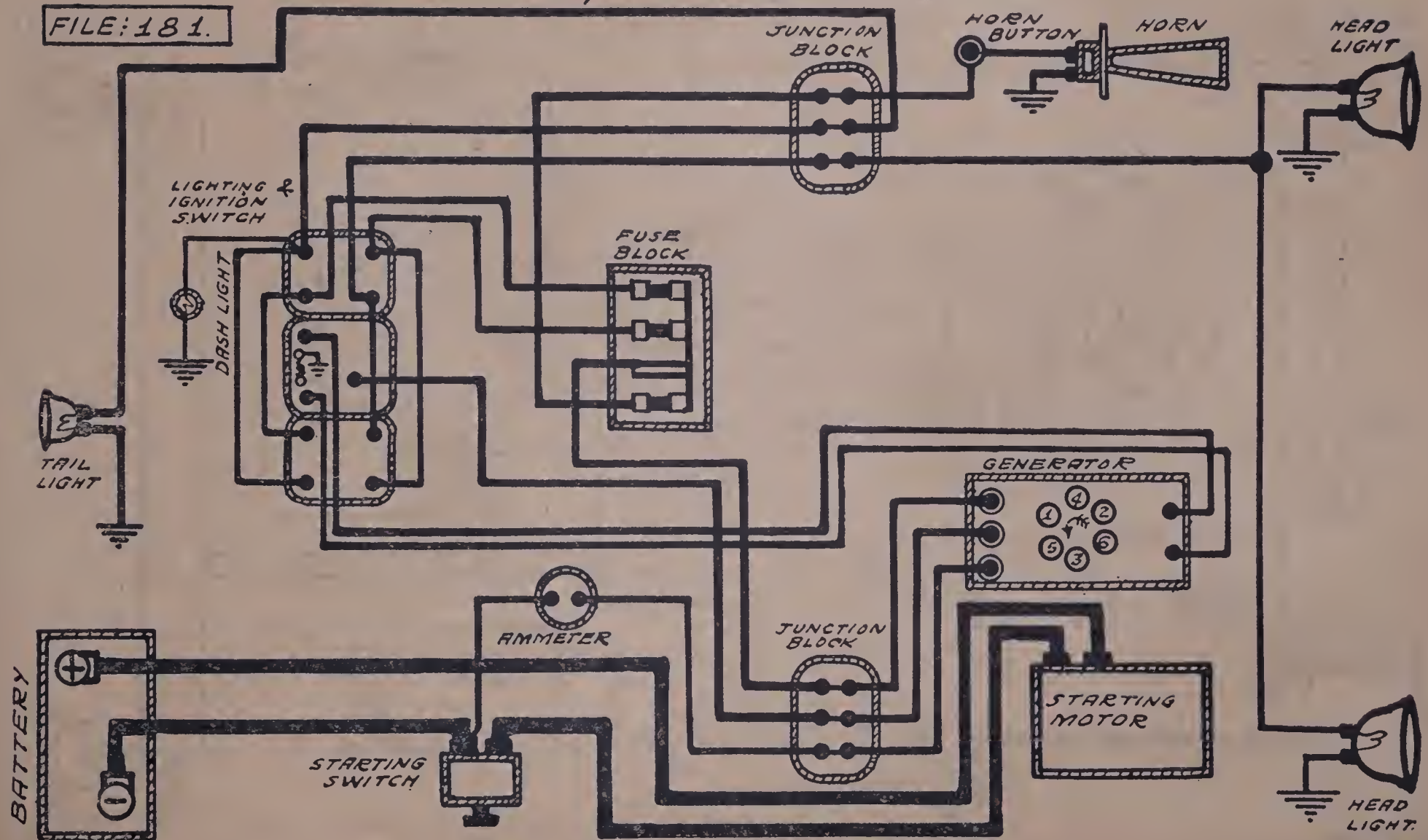


LEXINGTON

1915

MODEL 4-K; 6-L.

6-VOLT, -WESTINGHOUSE SYSTEM.



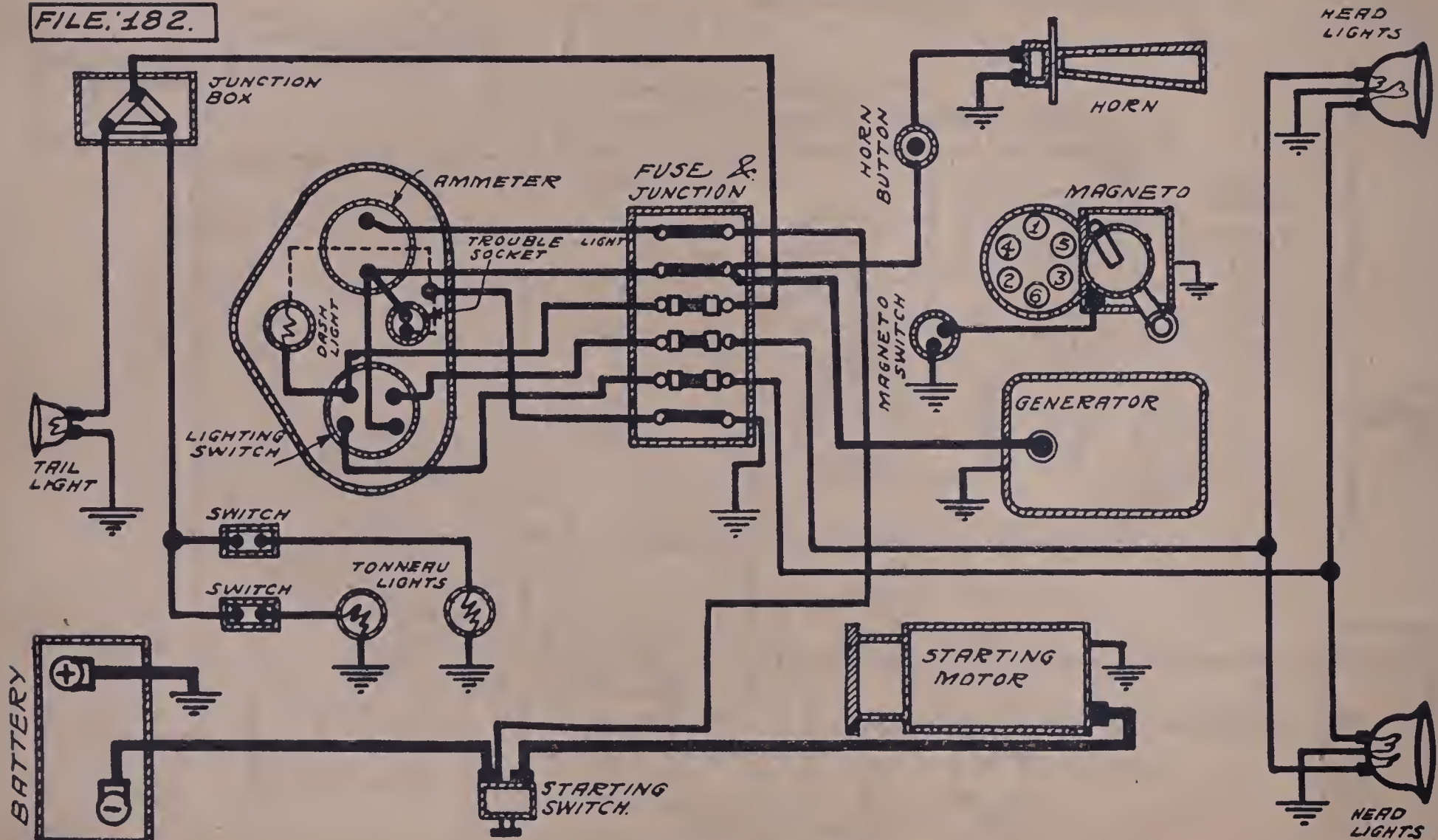
LEXINGTON

1916

MODEL - 6-N.

6-VOLT, WESTINGHOUSE SYSTEM.

FILE: 182.

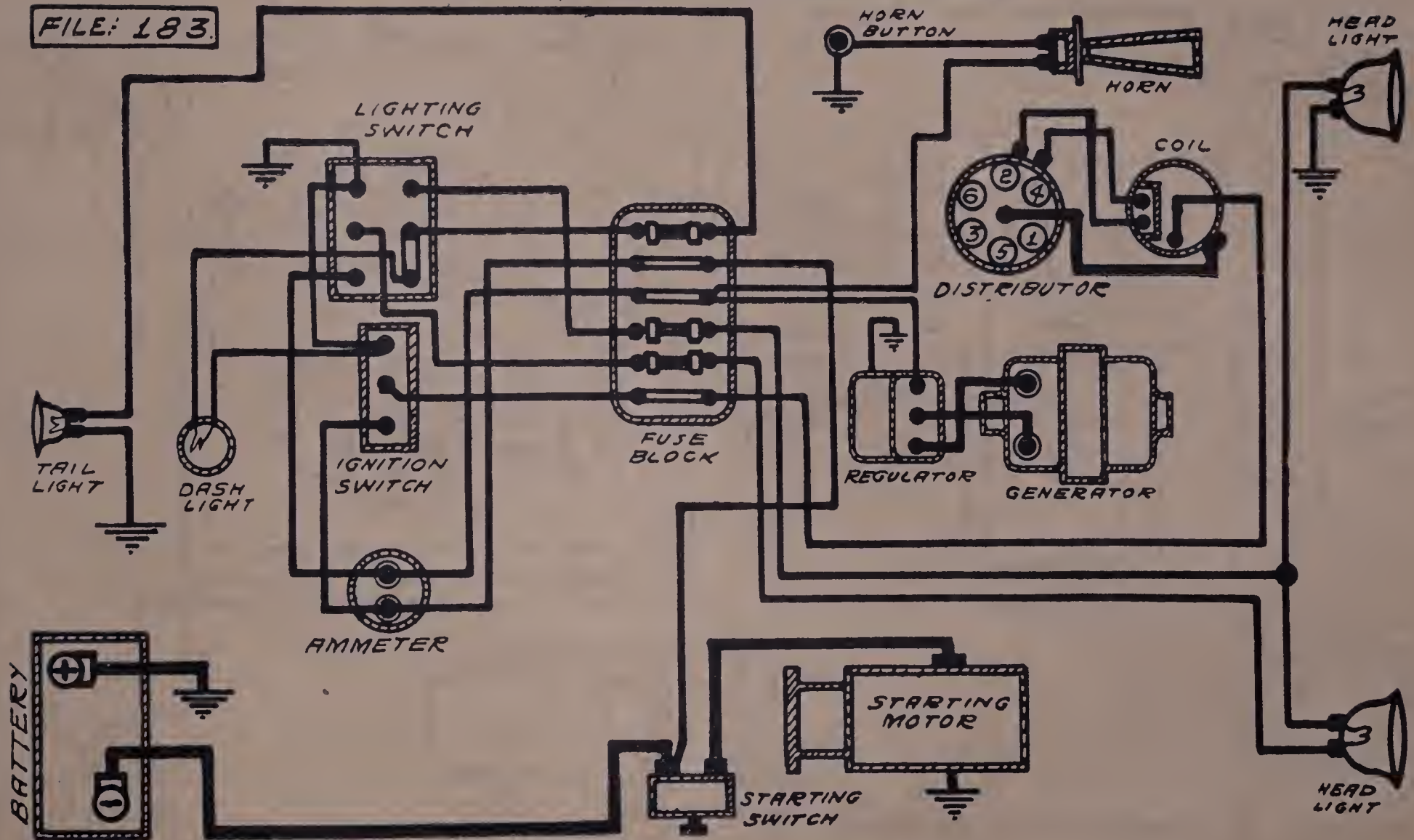


LEXINGTON

1916

MODEL-O.

6-VOLT, WESTINGHOUSE SYSTEM.



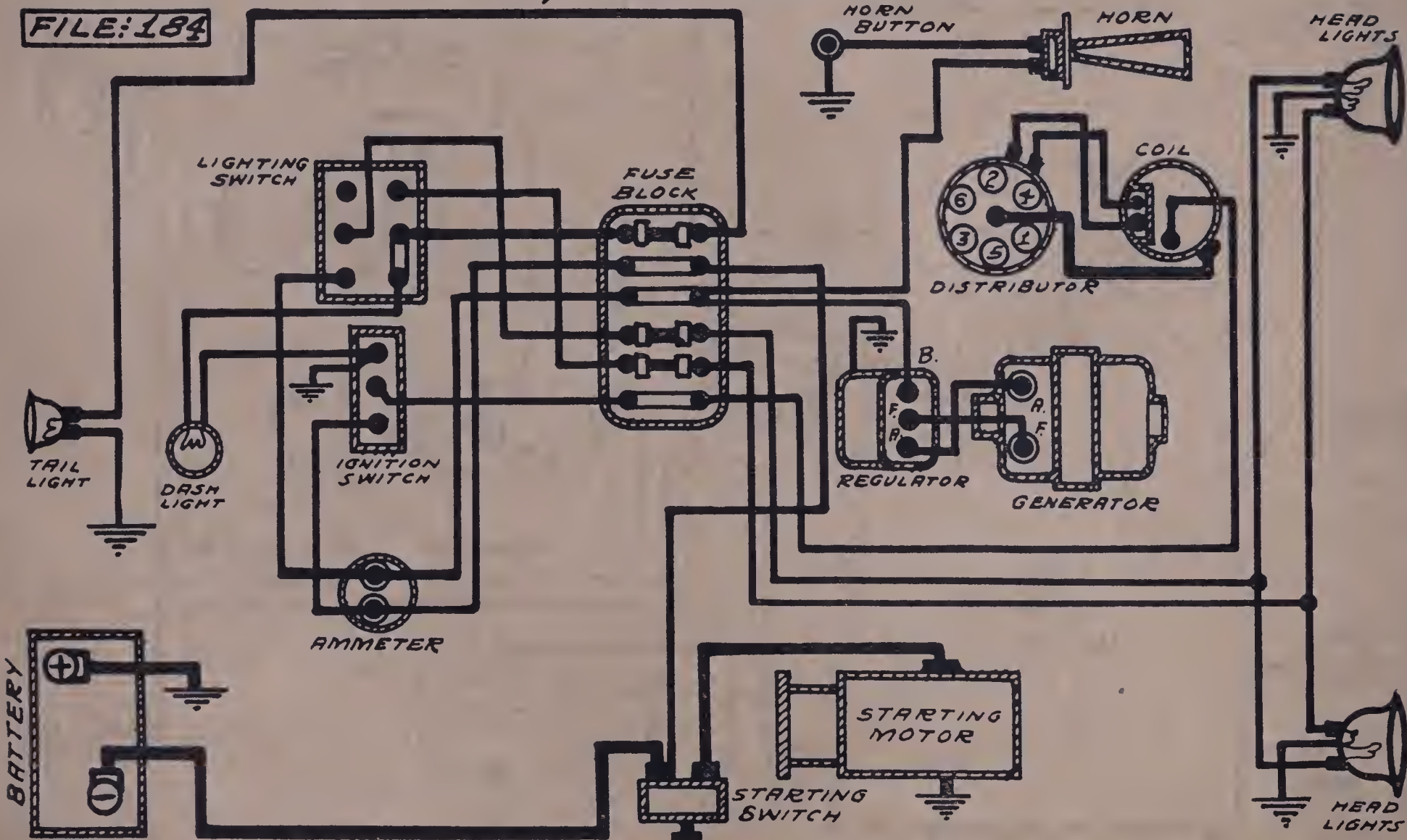
LEXINGTON

1917.

MODEL -O-

6-VOLT, -WESTINGHOUSE SYSTEM.

FILE: 184



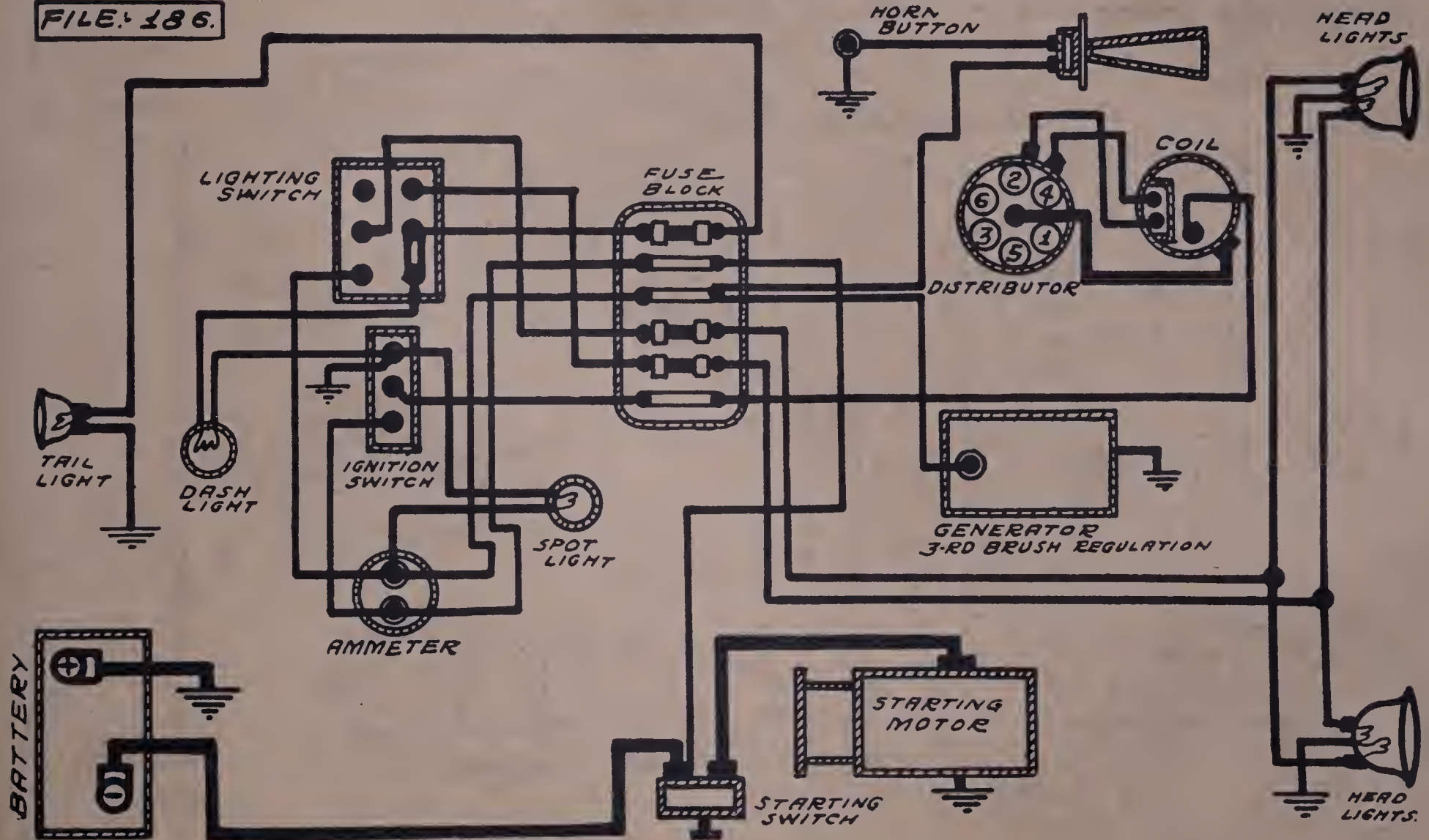
LEXINGTON

1918-1919

MODEL, 6-R.

6-VOLT, WESTINGHOUSE SYSTEM.

FILE: 186.

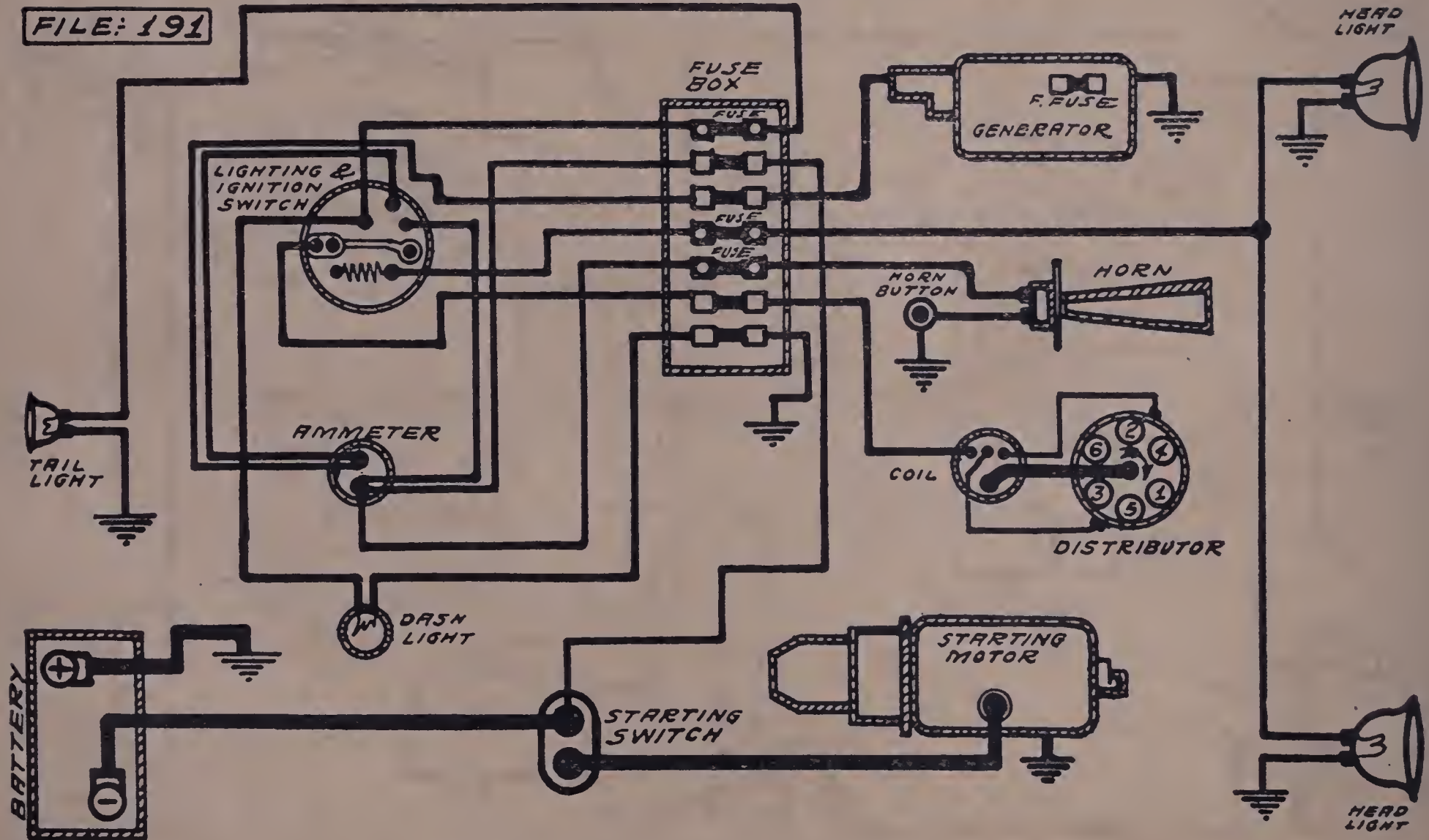


LEXINGTON

1920

MODEL -S-

6-VOLT, GRAY & DAVIS SYSTEM.



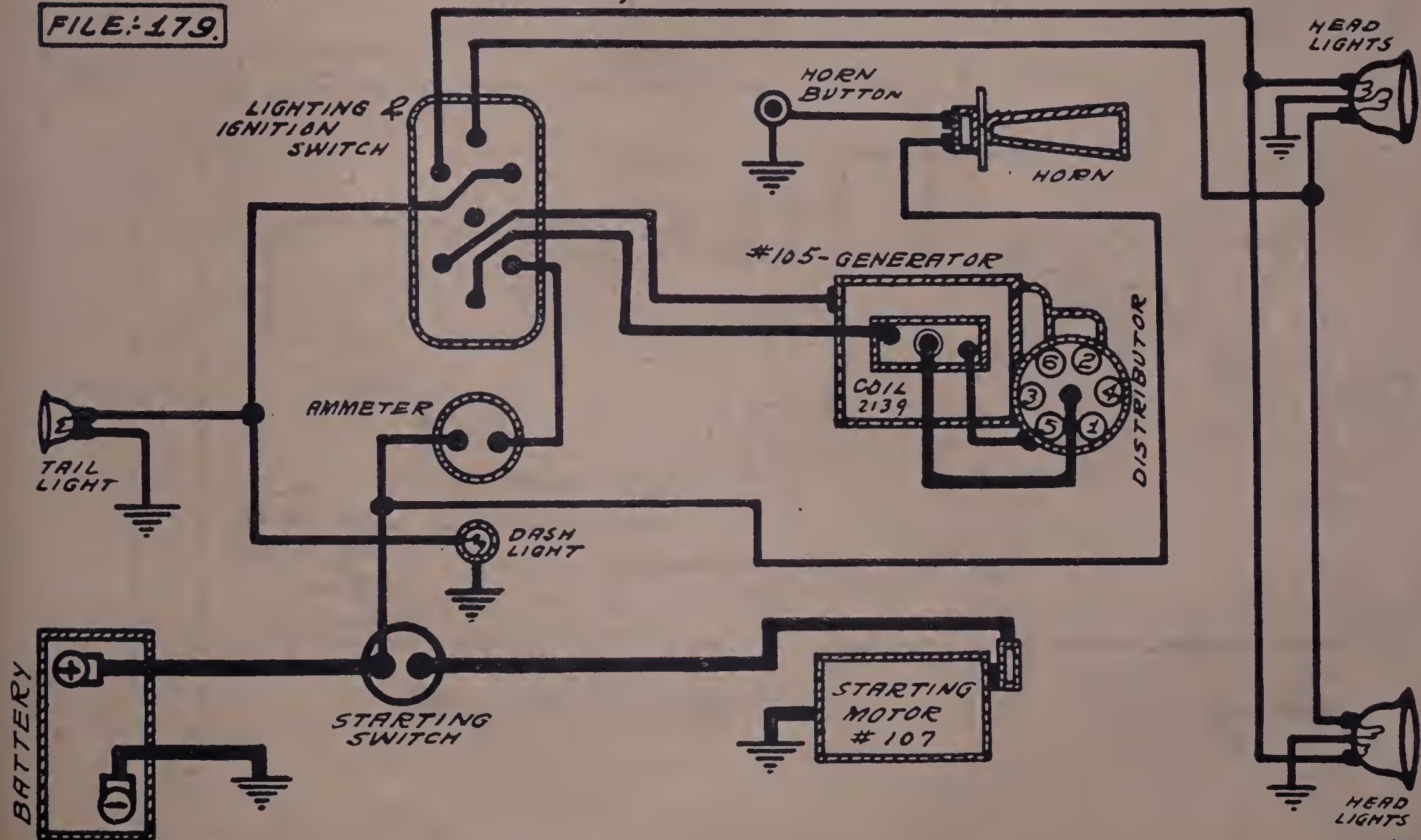
LIBERTY

1917-1918

MODEL, -10-A, 10-B.

6-VOLT, DELCO SYSTEM.

FILE: 179.



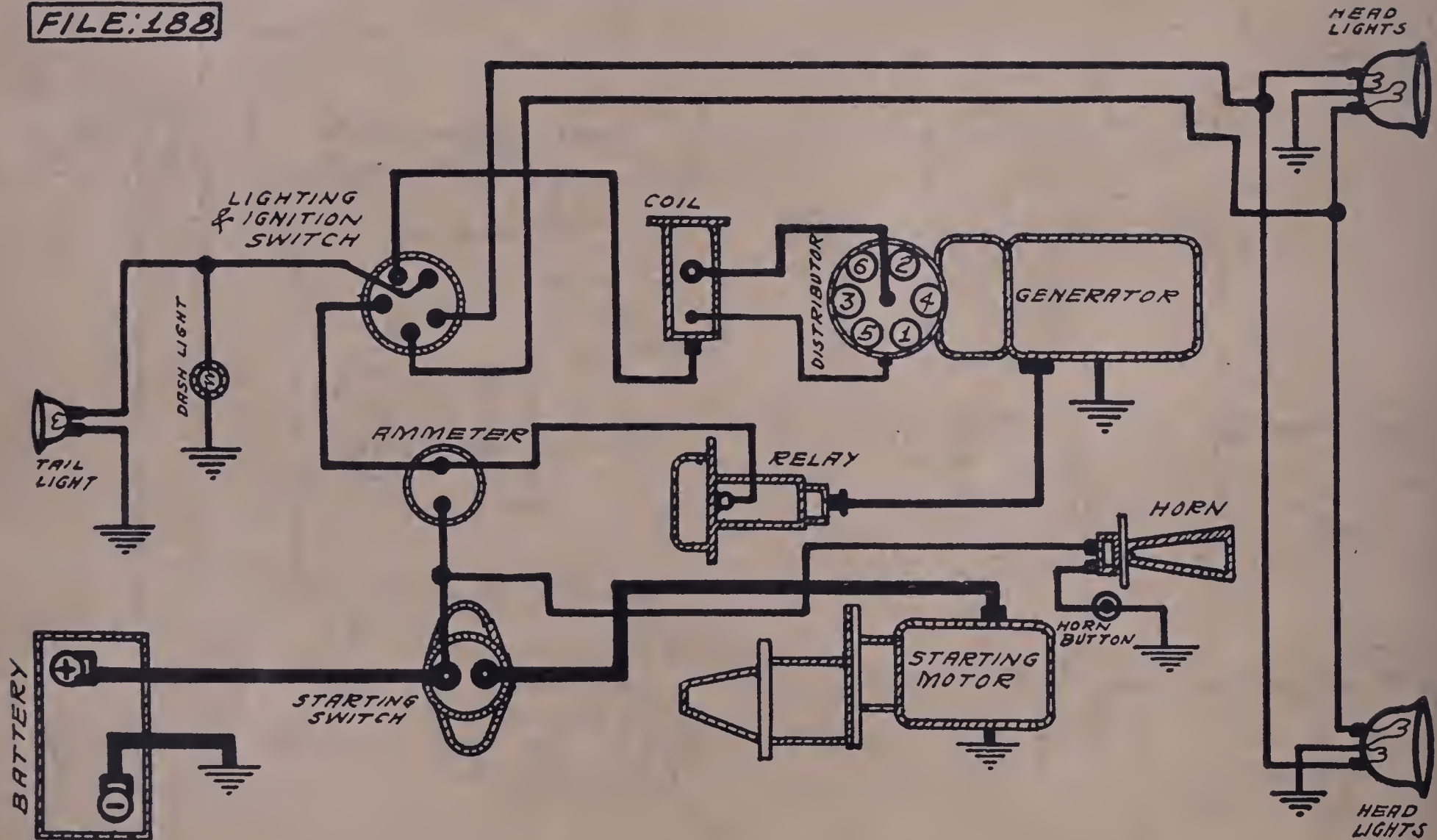
LIBERTY

1919-1920

MODEL 10-B.

6-VOLT, WAGNER SYSTEM.

FILE:188



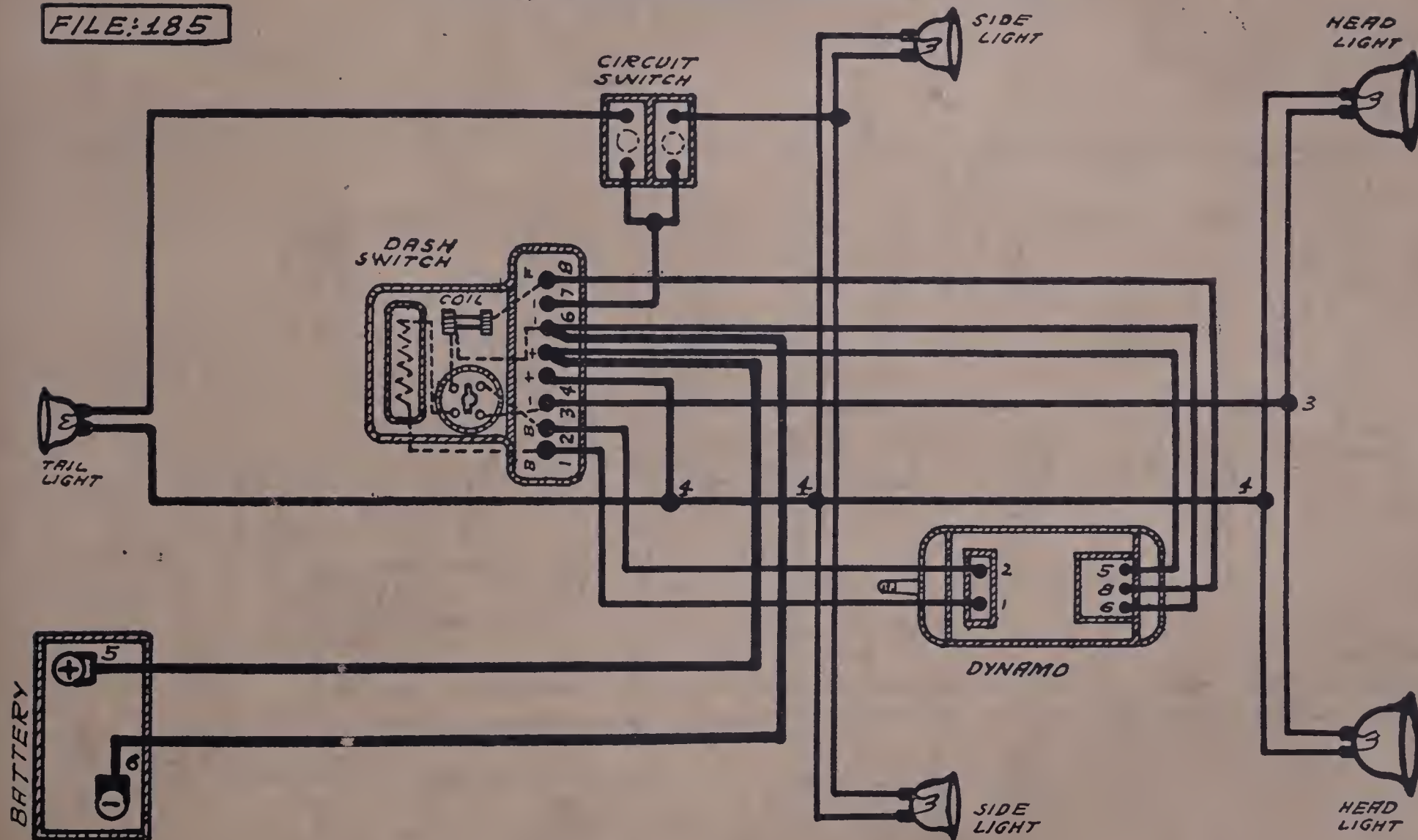
LOCOMOBILE

1911-1912-1913

MODELS, 30, 38, 48.

6-VOLT, RUSHMORE LIGHTING SYSTEM.

FILE:185



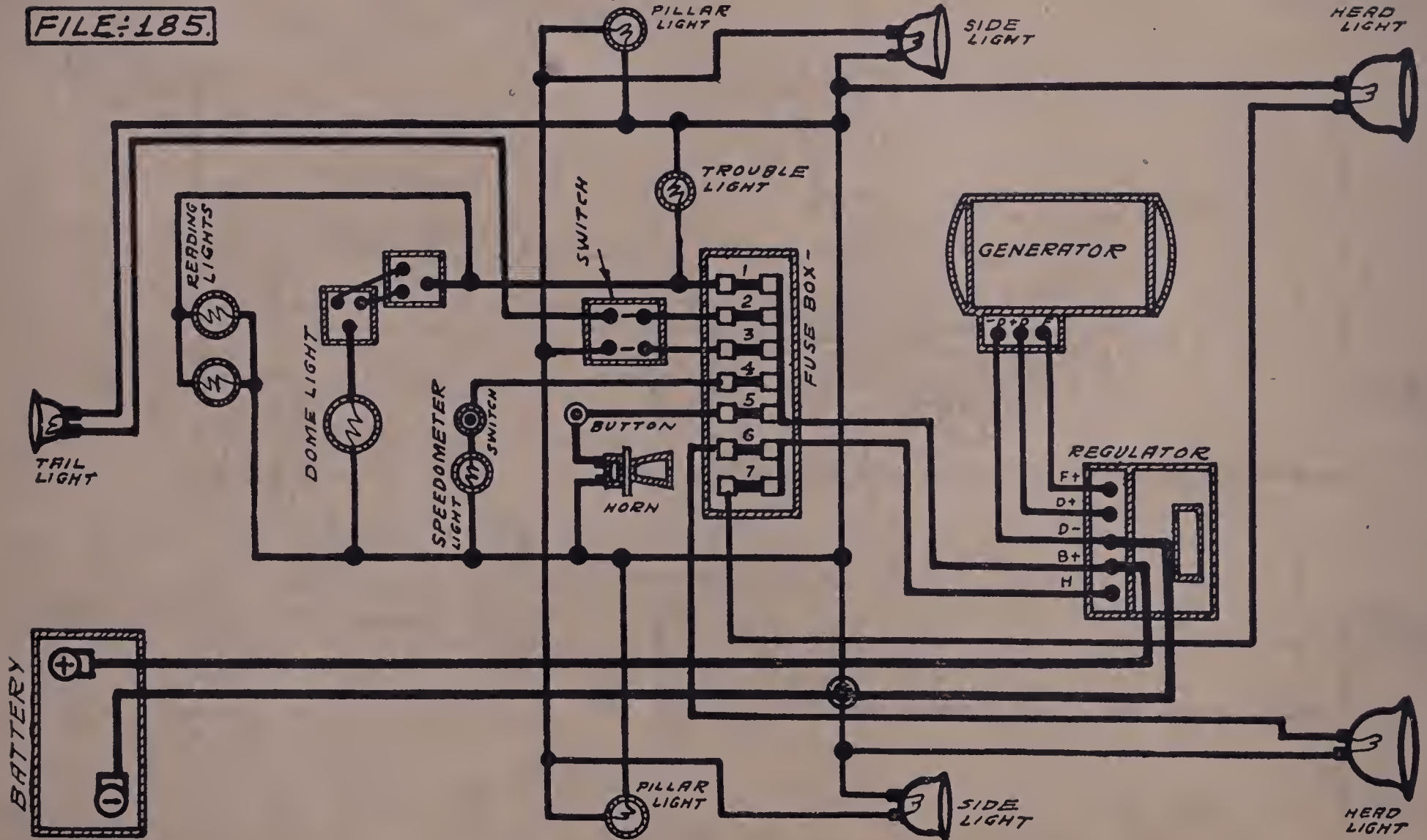
LOCOMOBILE

1913-1914

MODEL;- 30, 38, 48.

6-VOLT, ADLAKES SYSTEM.

FILE: 185.



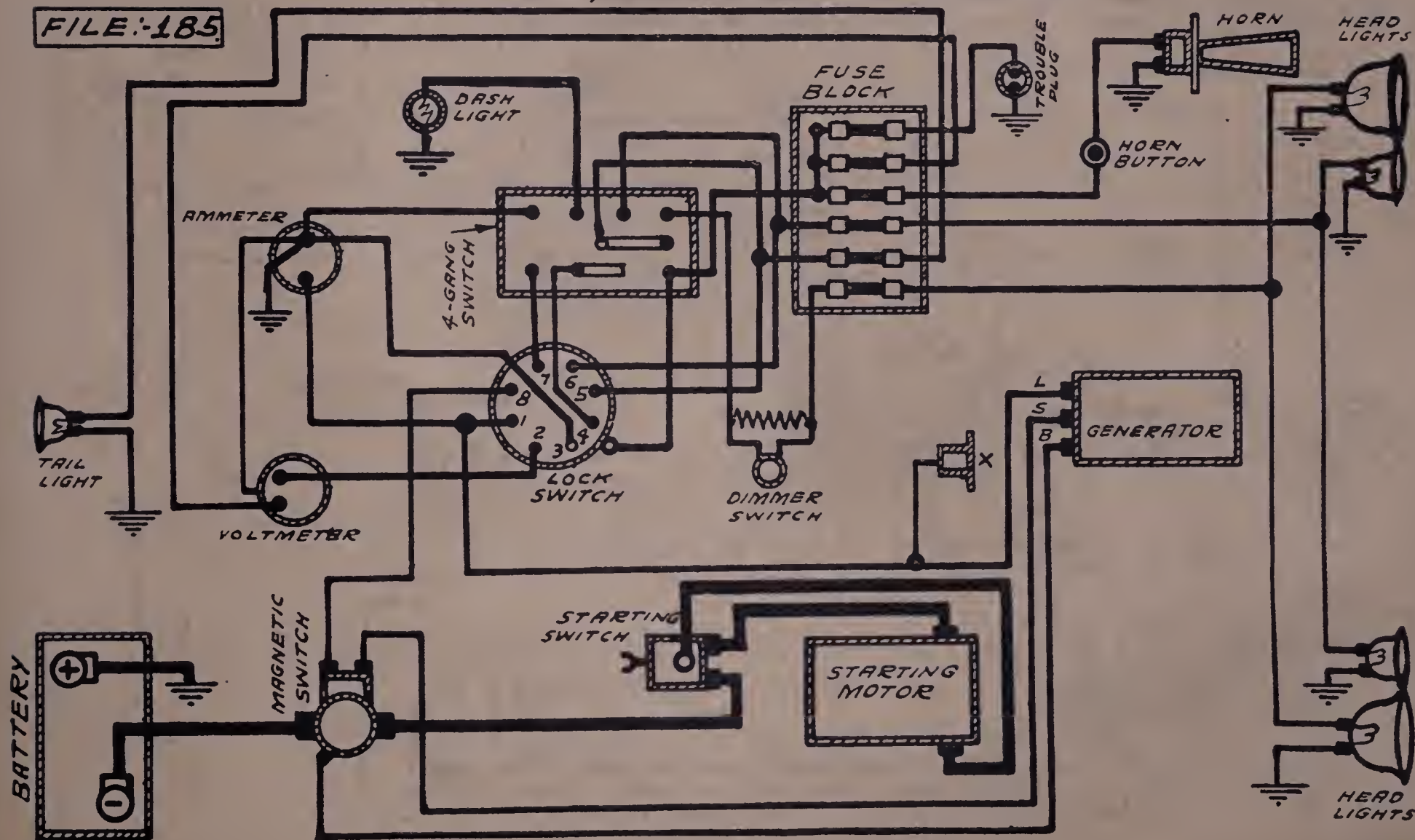
LOCOMOBILE

1915-1916.

MODEL 38, 48.

6-VOLT, WESTINGHOUSE SYSTEM.

FILE:-185



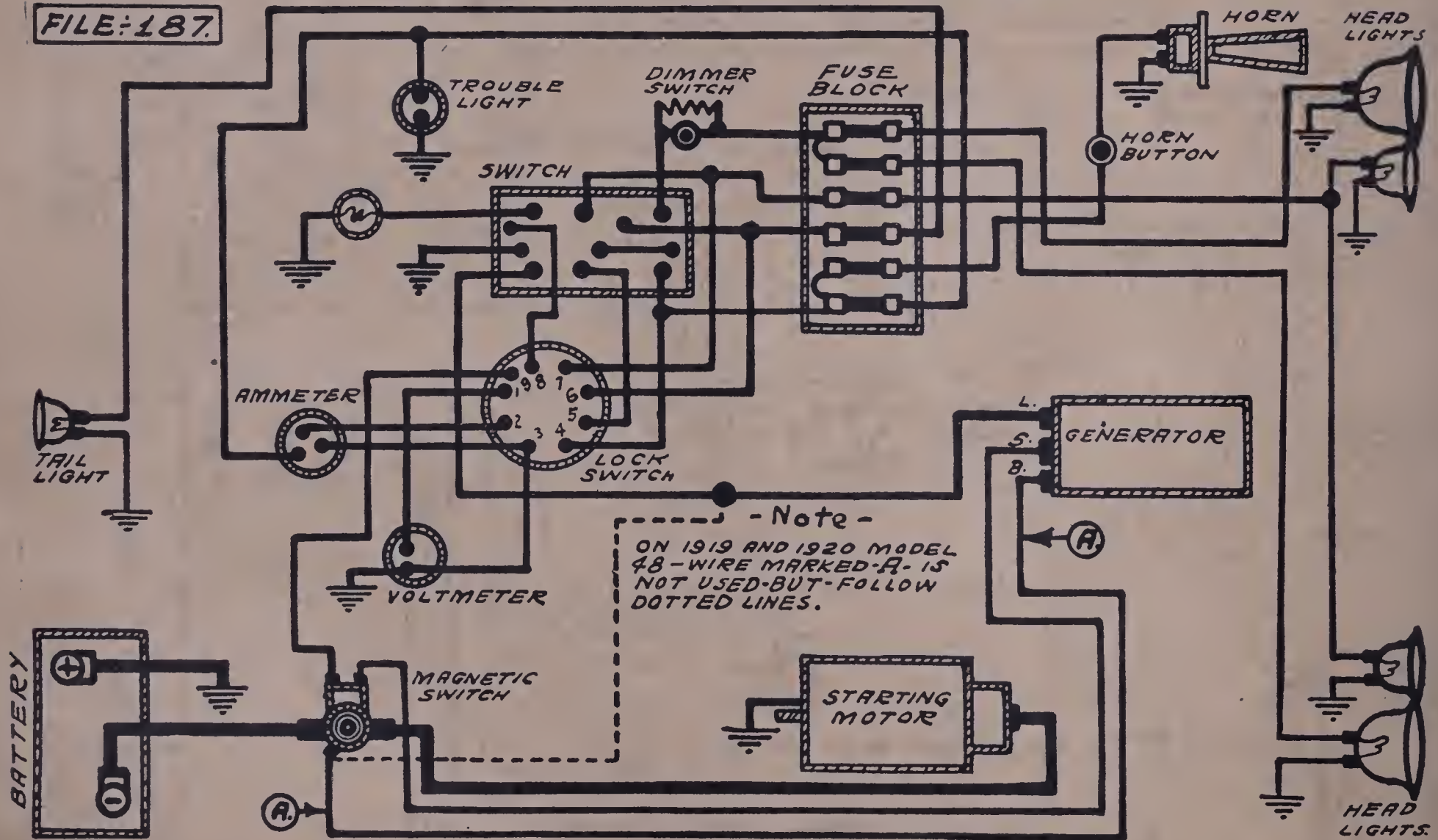
LOCOMOBILE

1916-1917-1918-1919-1920

MODEL 38,-48.

6-VOLT,- WESTINGHOUSE SYSTEM.

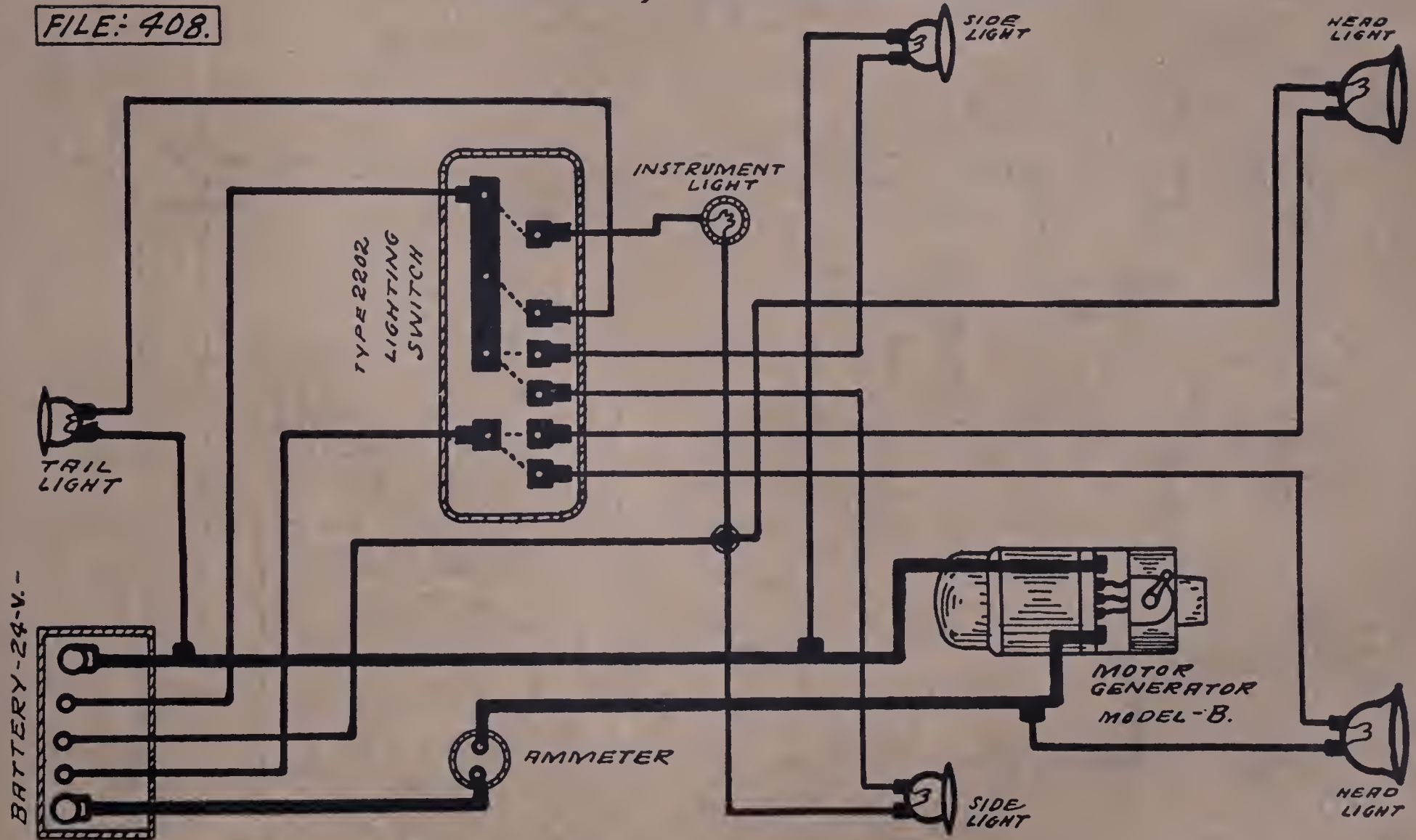
FILE:187.



LYONS-KNIGHT.

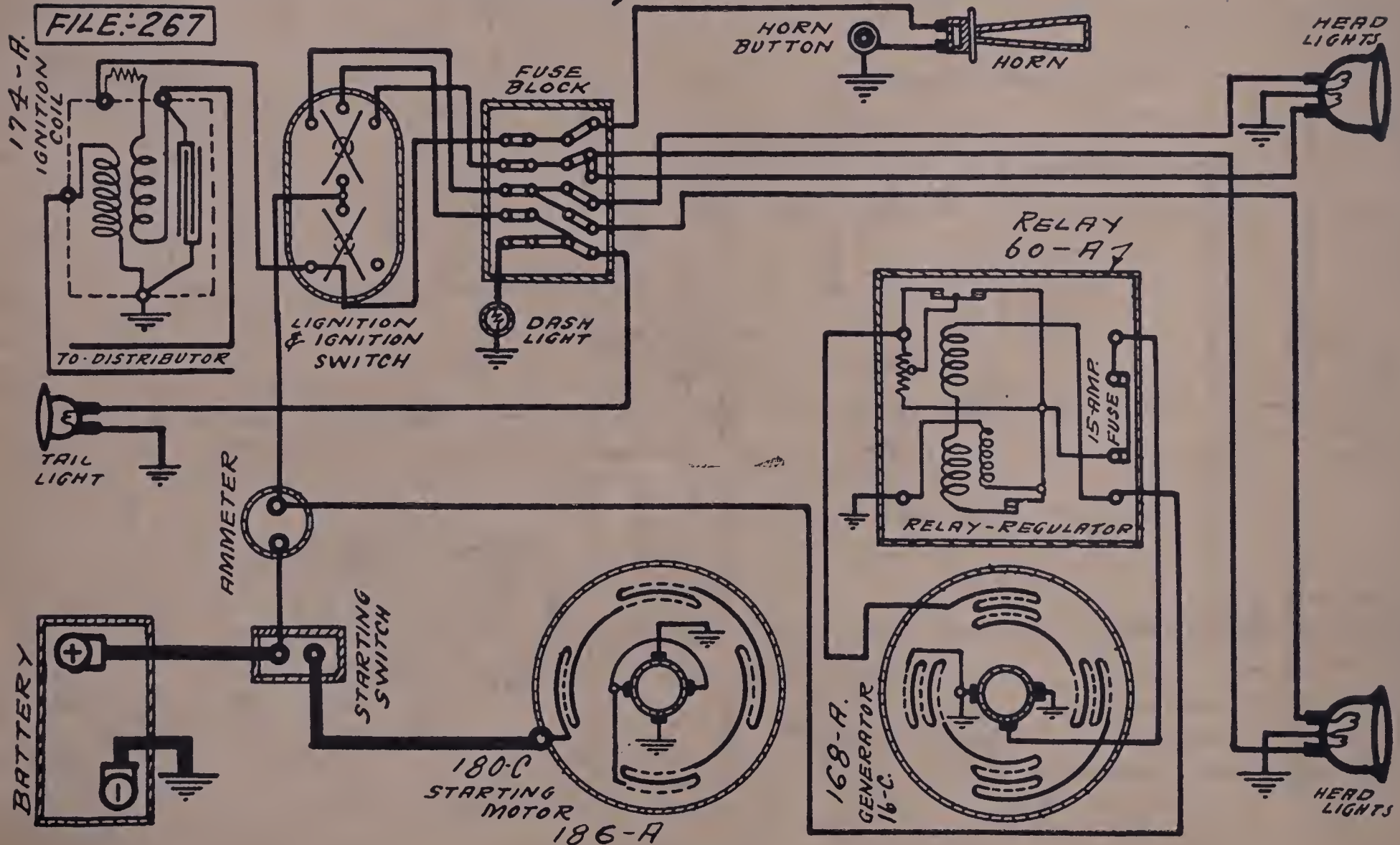
1914 MODEL.-
24-VOLT, -NORTHEAST SYSTEM.

FILE: 408.



MADISON

1916-17. MODELS 6-40, SERIES 1-2-3. 1918-MODEL -18.
6-VOLT, -REMY SYSTEM.



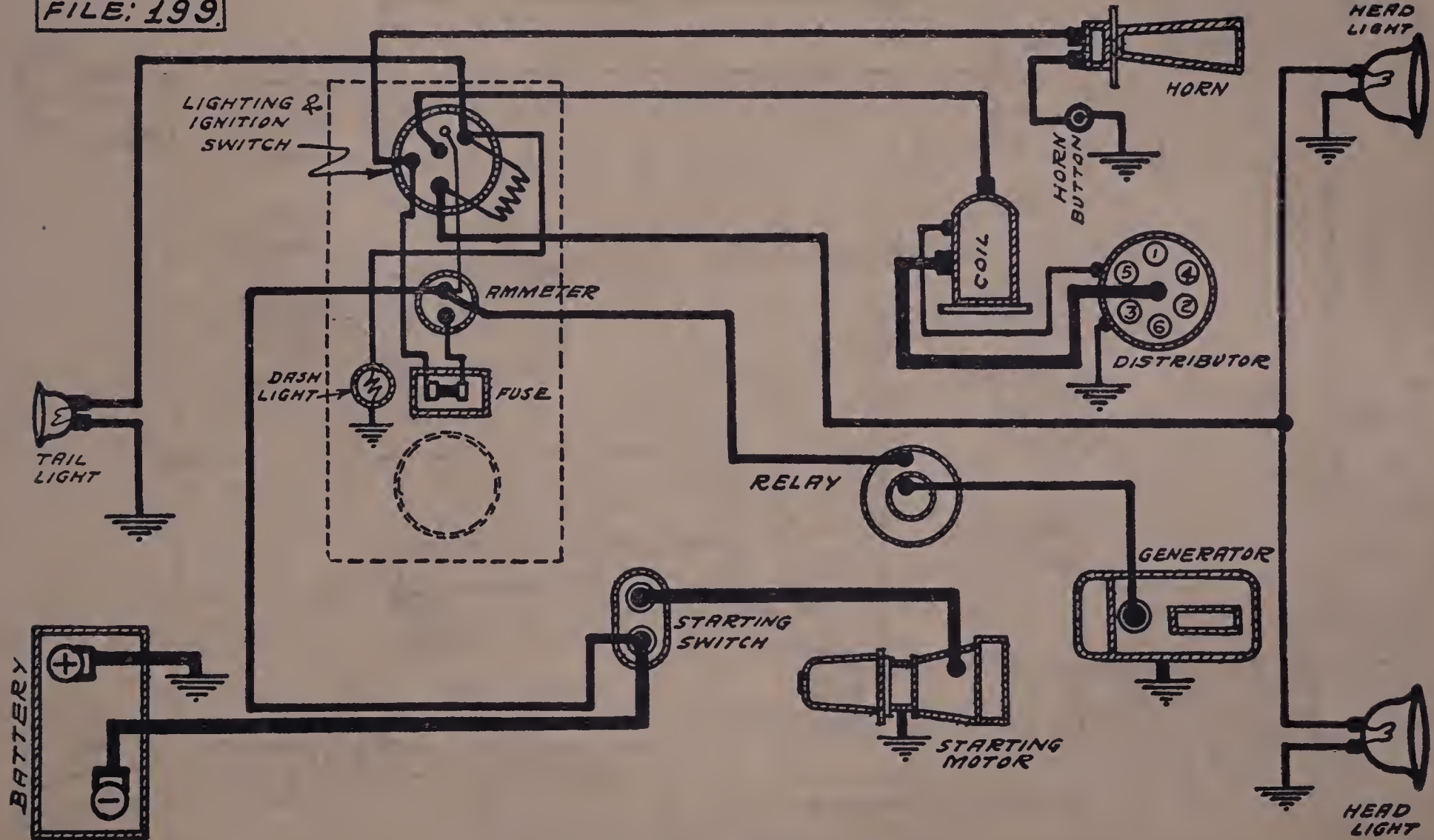
MAIBOHM

1918-1919.

MODEL-B.

6-VOLT, WAGNER SYSTEM.

FILE: 199.



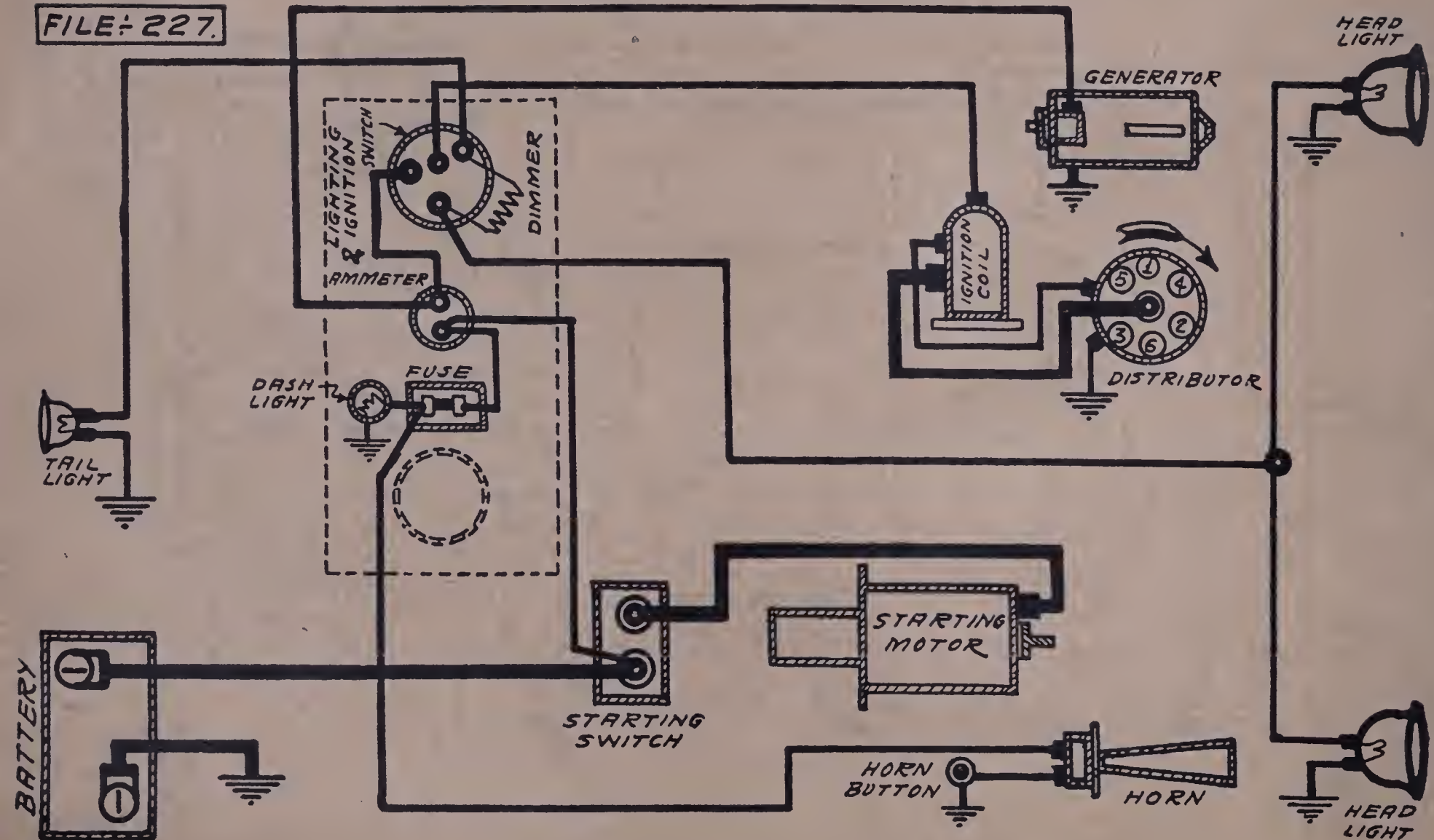
MAIBOHM

1920

MODEL-B.

6-VOLT, WAGNER SYSTEM.

FILE: 227.



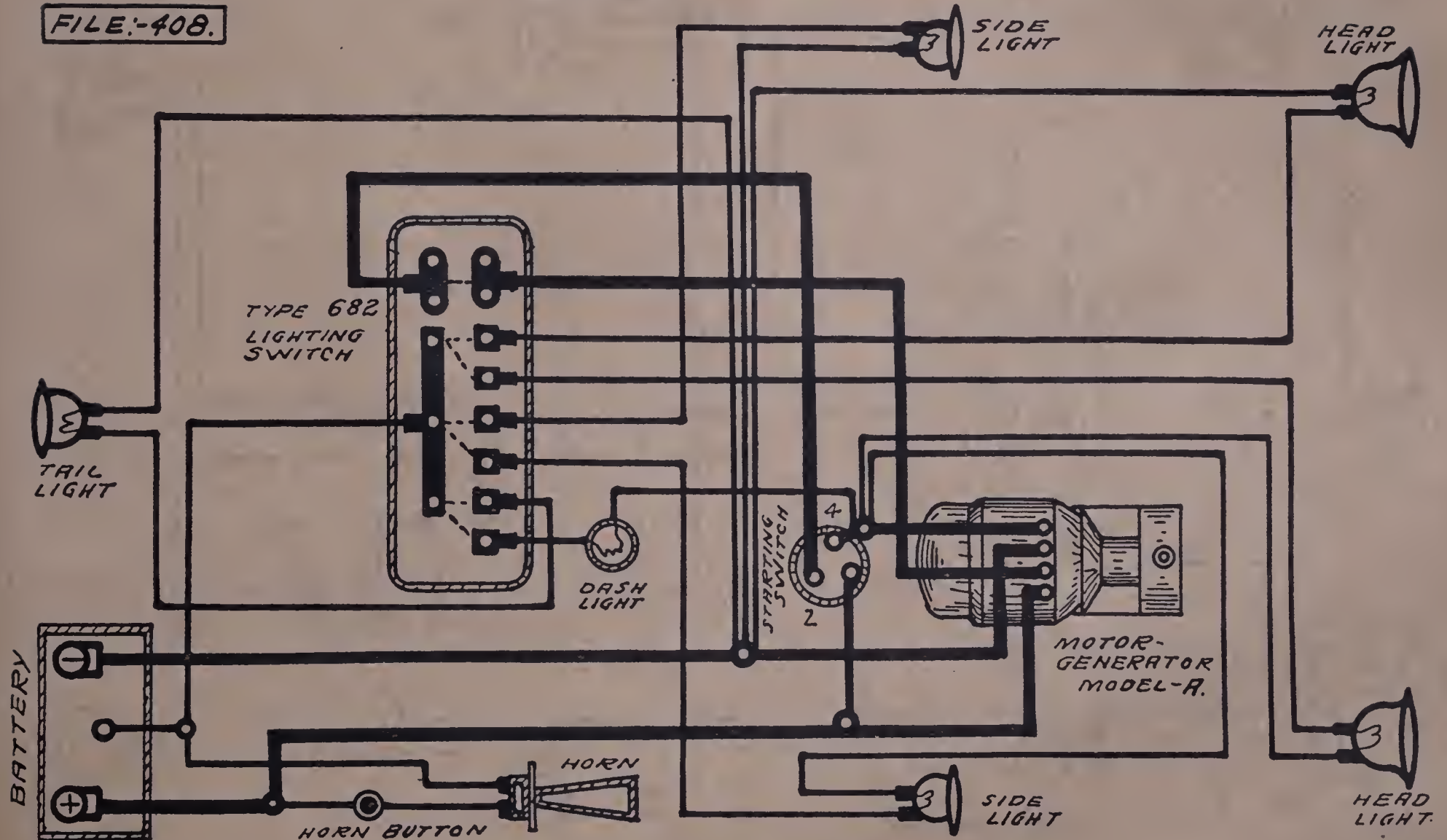
MARMON

1913

MODEL 32.

16-VOLT, NORTH EAST SYSTEM.

FILE:-408.



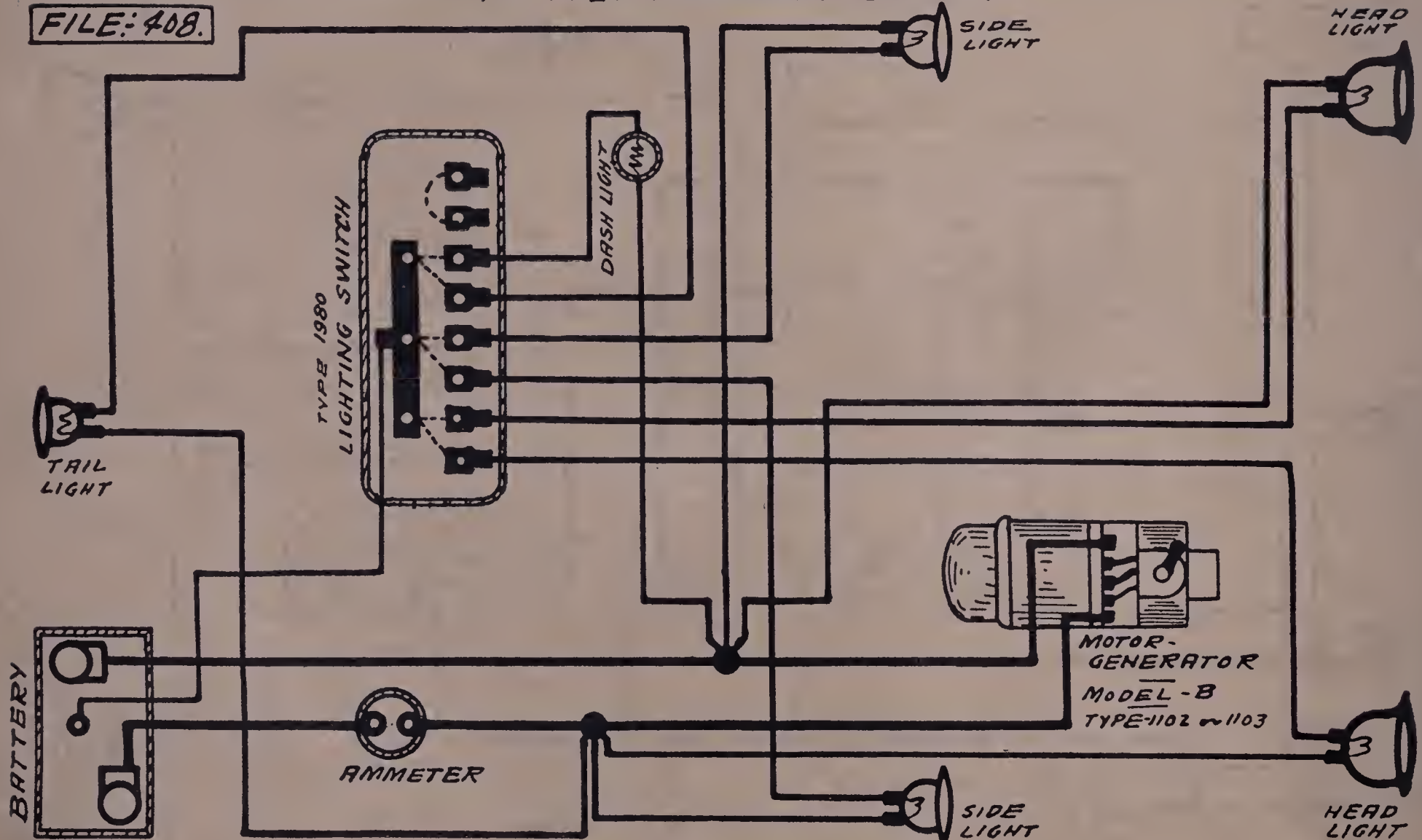
MARMON

1913 - MODEL 48.

1914 - MODEL -41, 48.-

16-VOLT-NORTHEAST SYSTEM.

FILE: 408.



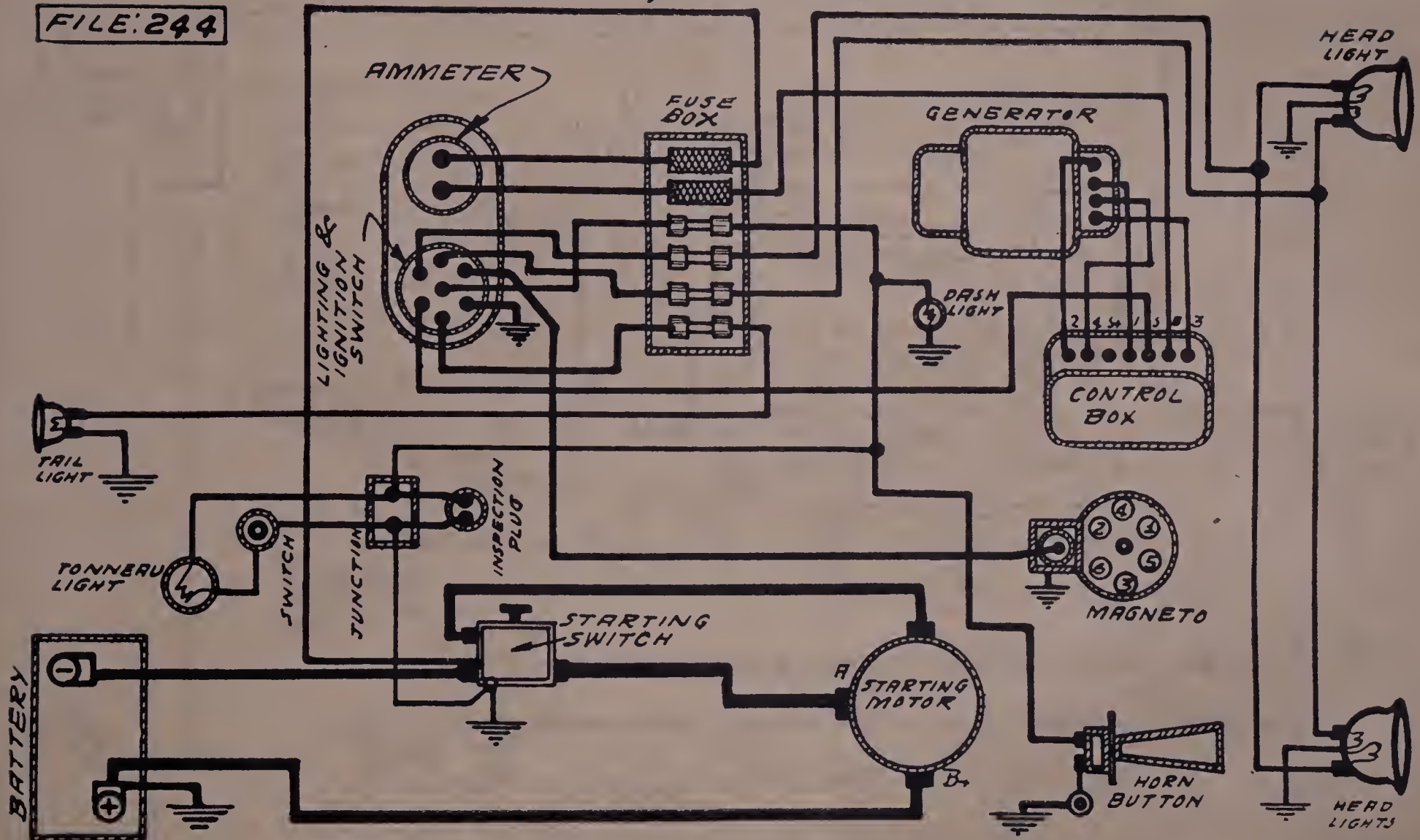
MARMON

1917

MODEL 34

12-VOLT, BOSCH SYSTEM.

FILE: 244



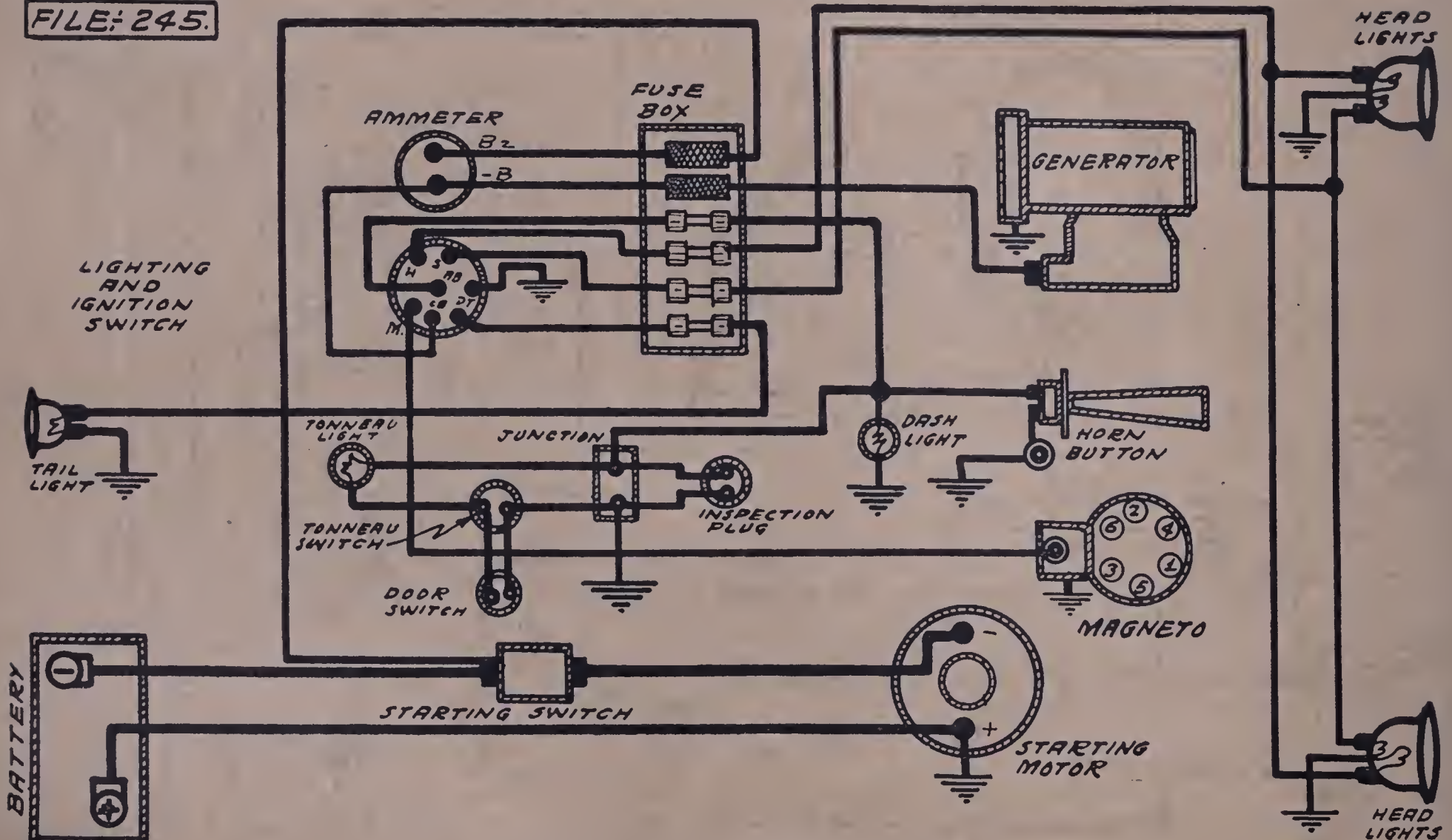
MARMON

1918-1919

MODEL 34

12-VOLT, -BIJUR SYSTEM.

FILE: 245.



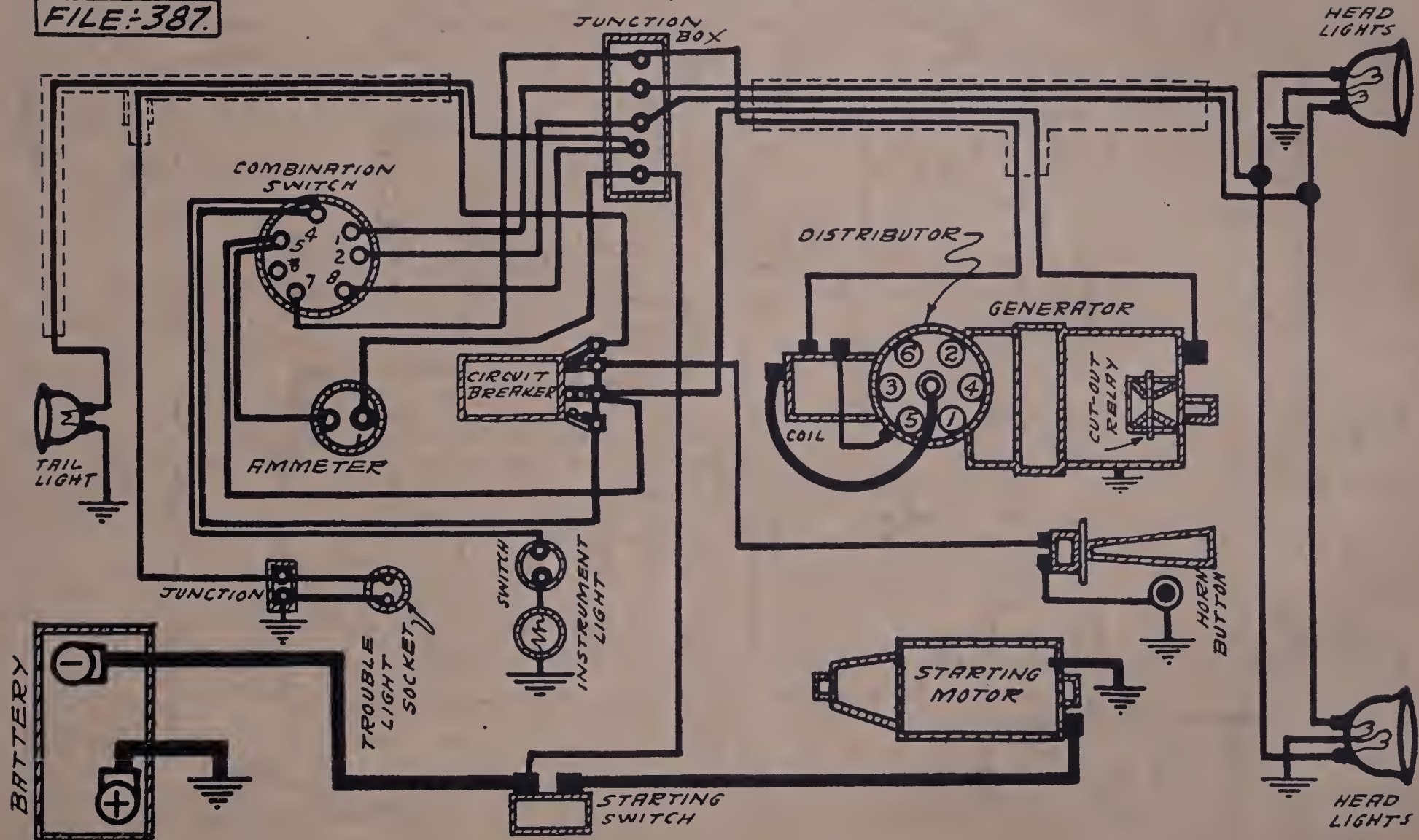
MARMON

1920

MODEL -34

6-VOLT,-DELCO SYSTEM.

FILE:387.

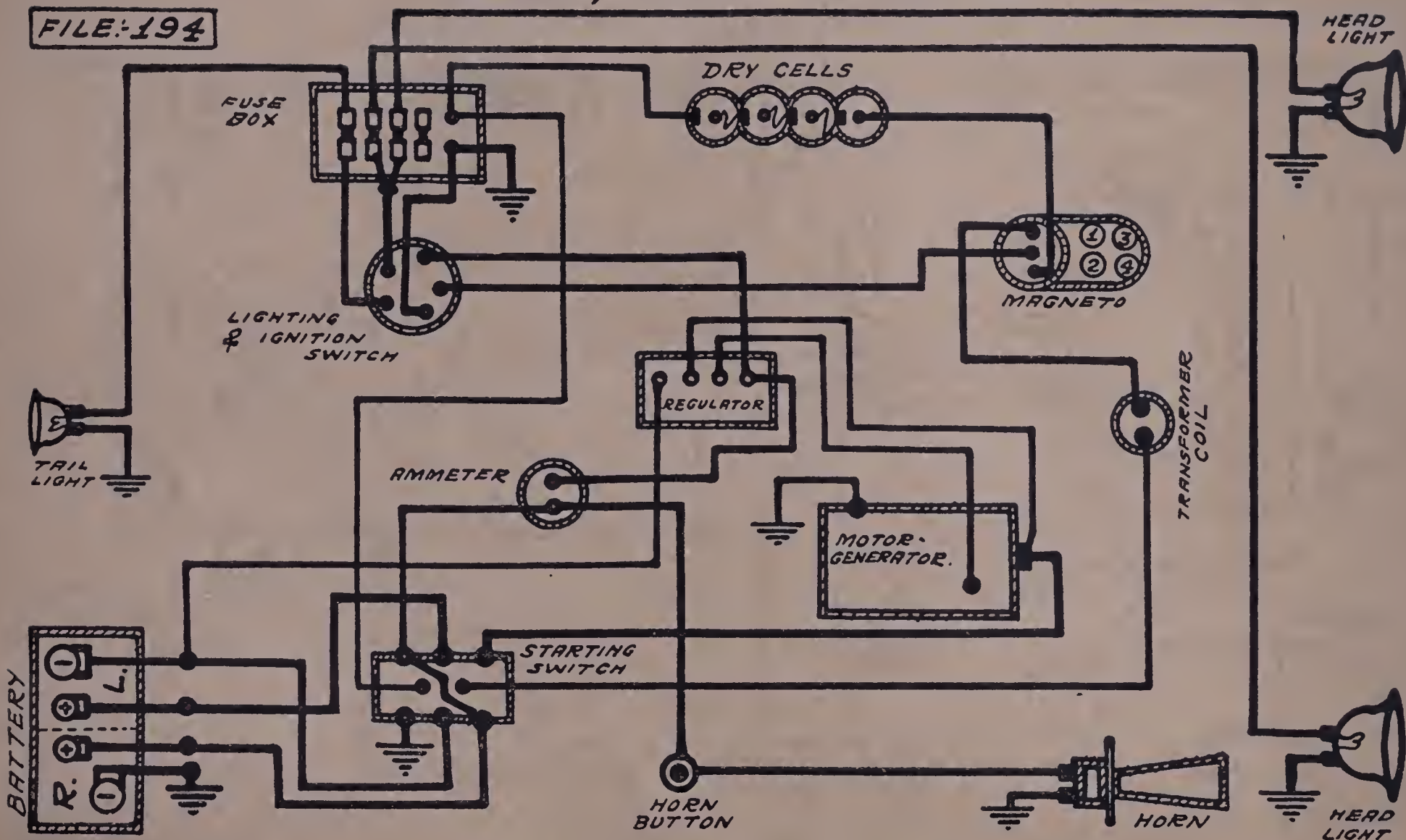


MAXWELL

1915 MODEL.

12-VOLT, -SIMMS-HUFF SYSTEM.

FILE: 194

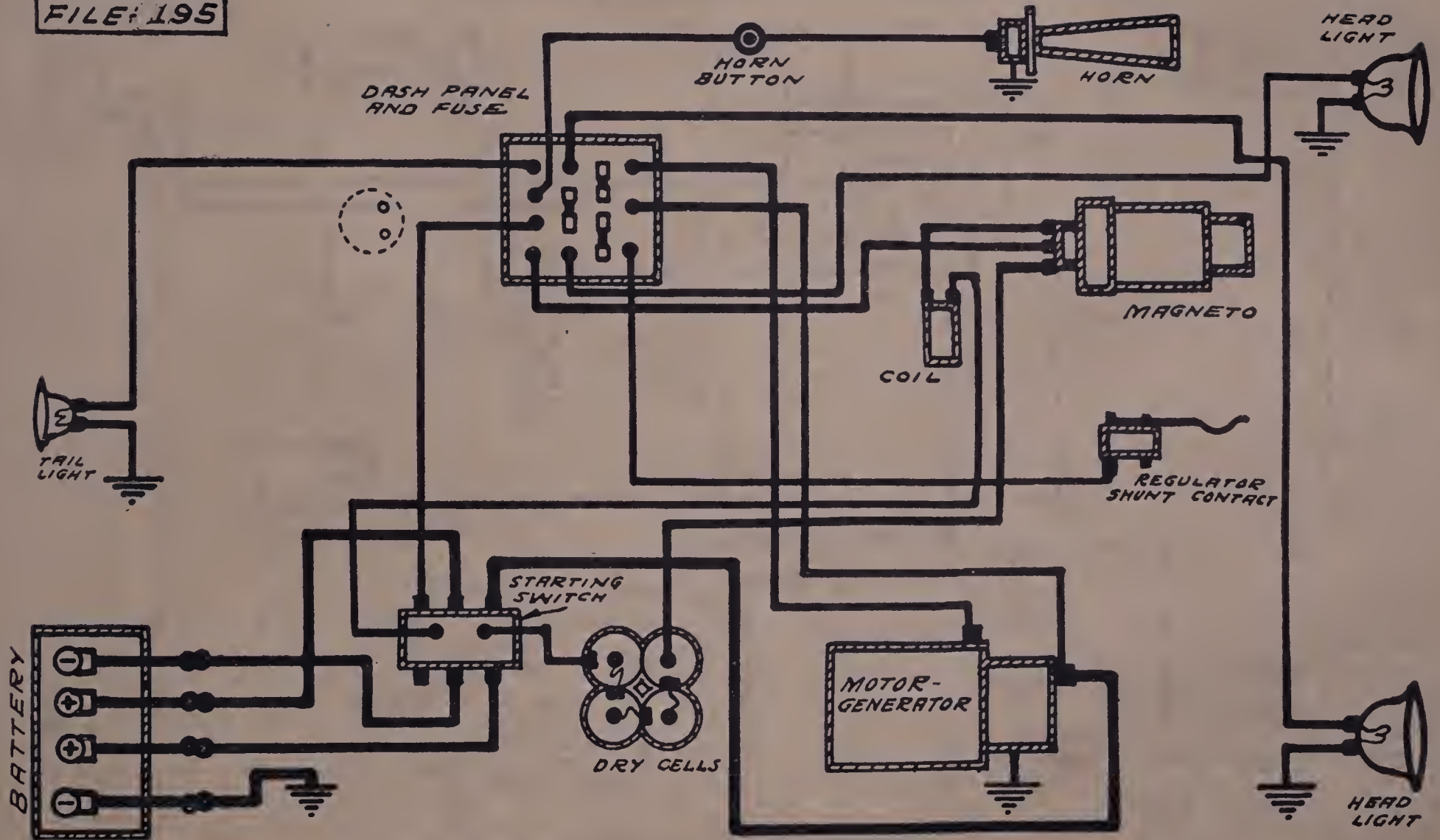


MAXWELL

1916 MODEL

12-VOLT, - SIMMS-HUFF SYSTEM.

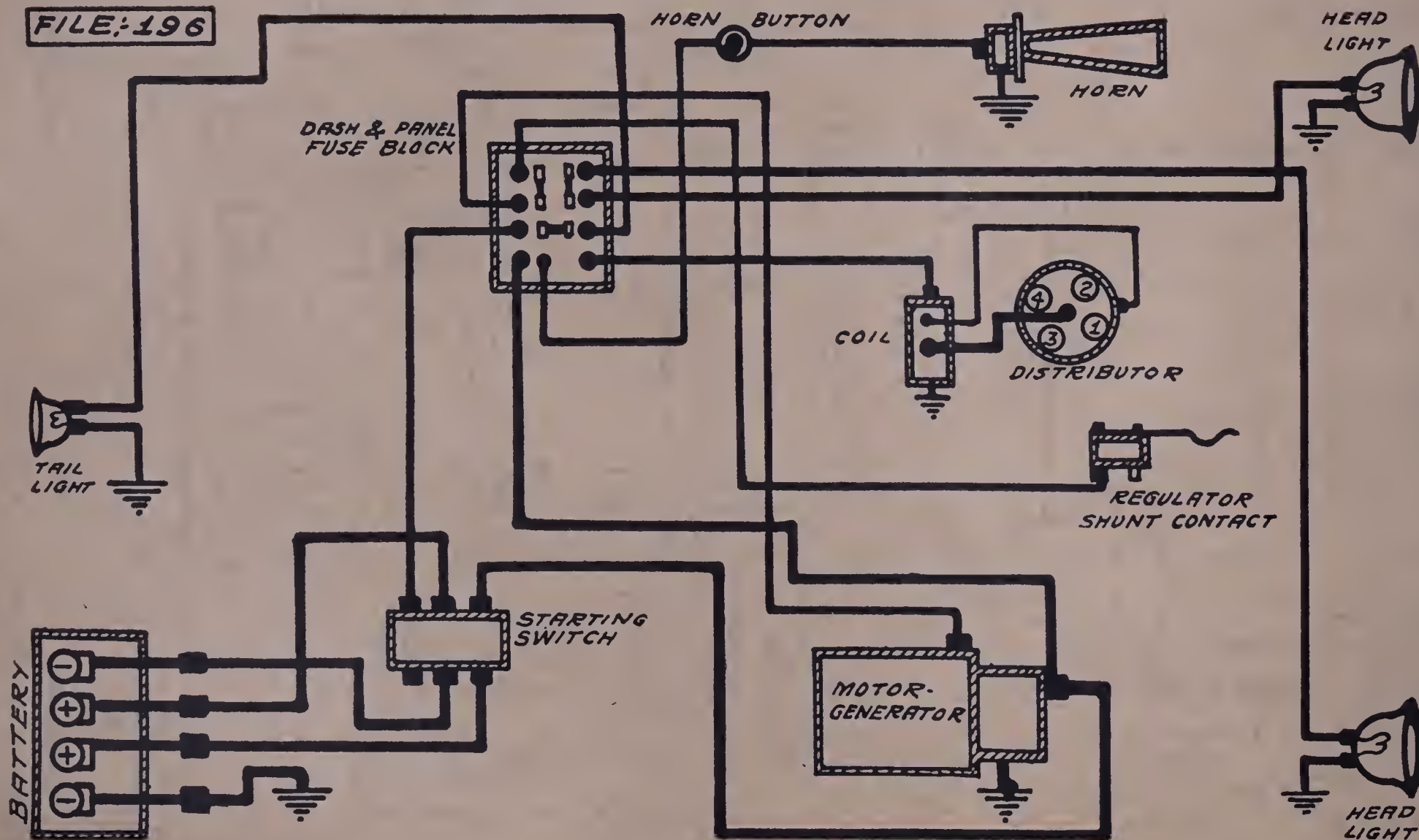
FILE: 195



MAXWELL

1917 MODEL

12-VOLT, SIMMS-HUFF SYSTEM.

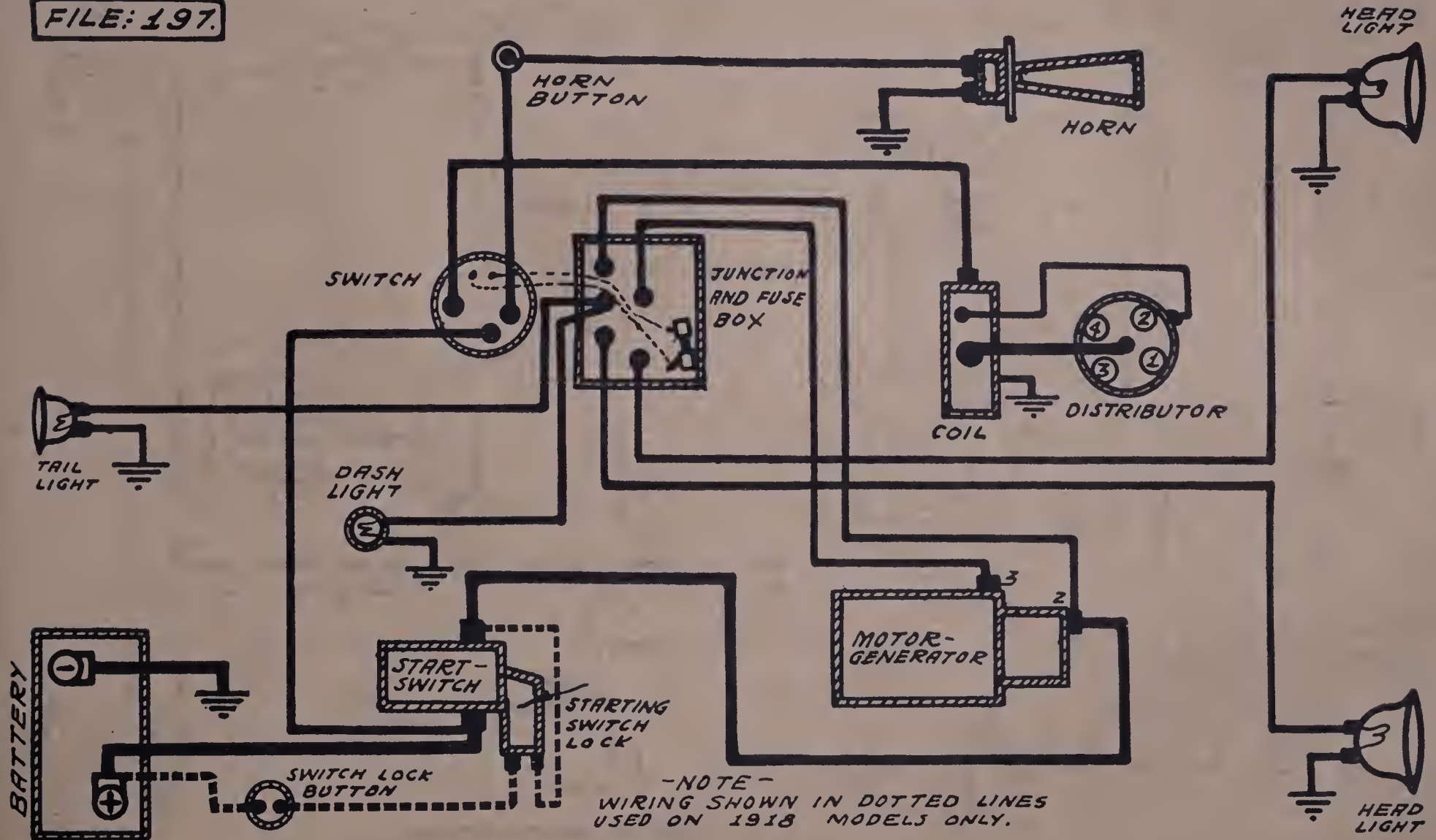


MAXWELL

1918-1919 MODEL

12-VOLT, -SIMMS-HUFF SYSTEM.

FILE: 197.



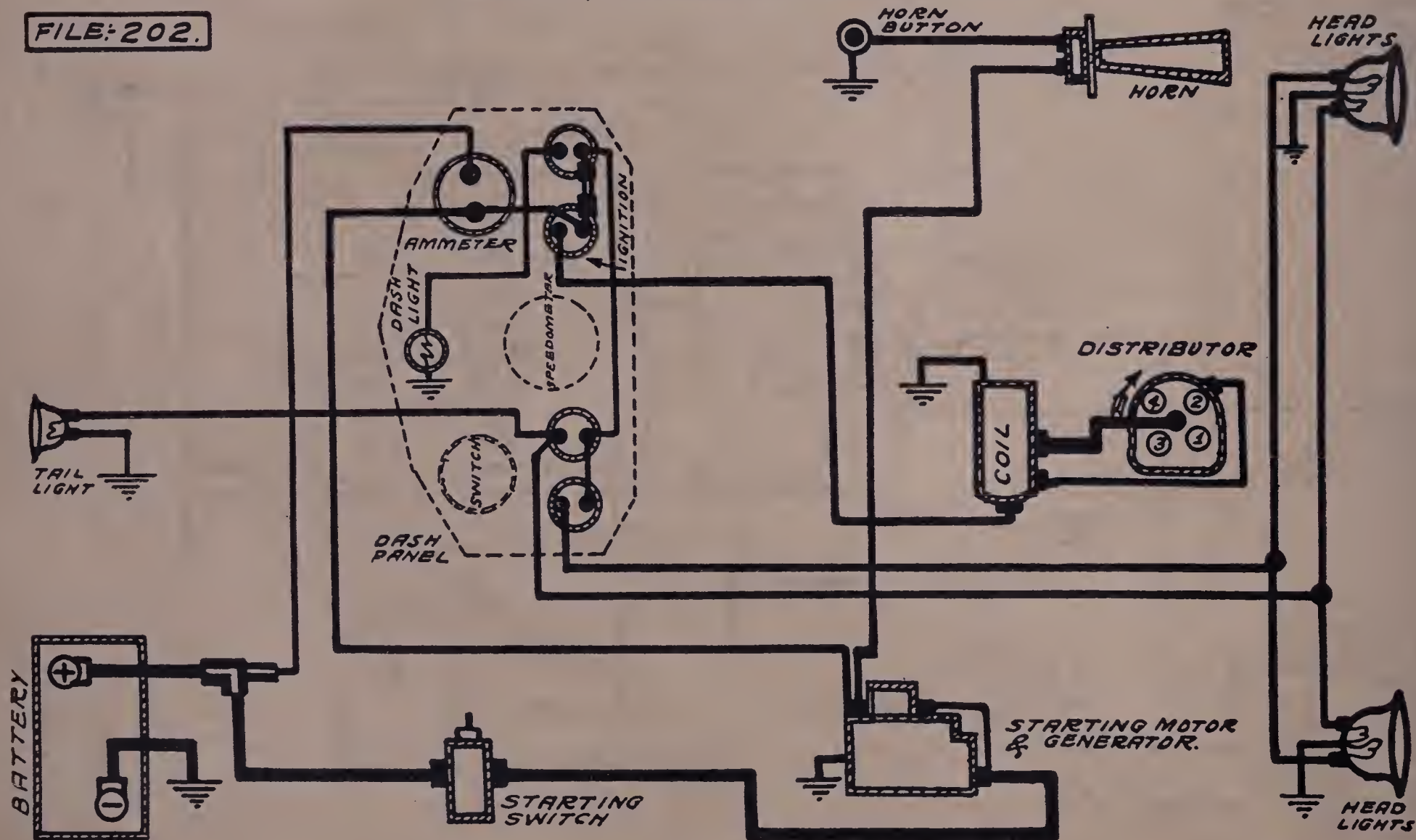
1920

MAXWELL

SINGLE UNIT SYSTEM

12-VOLT, -SIMMS-HUFF SYSTEM

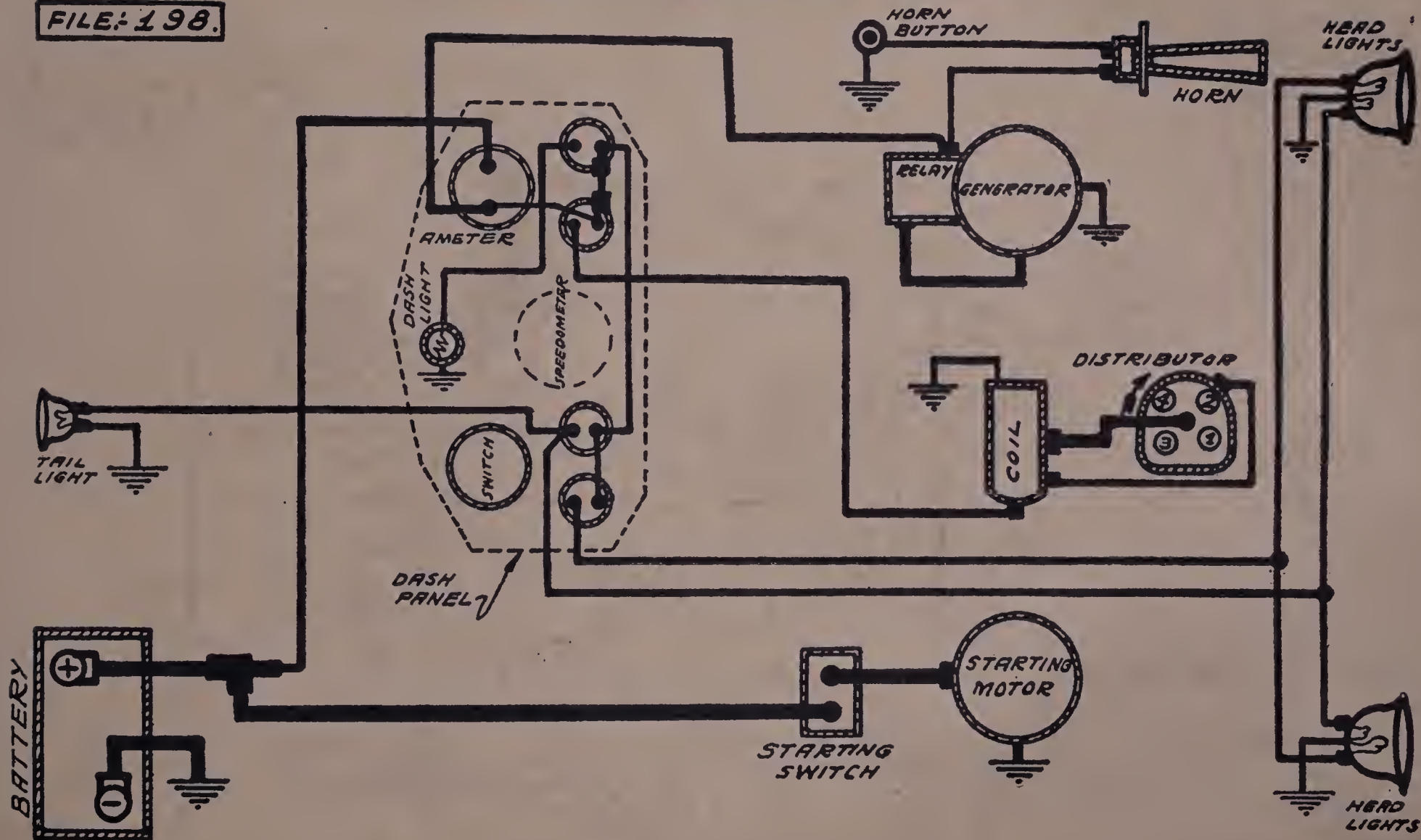
FILE:202.



1920

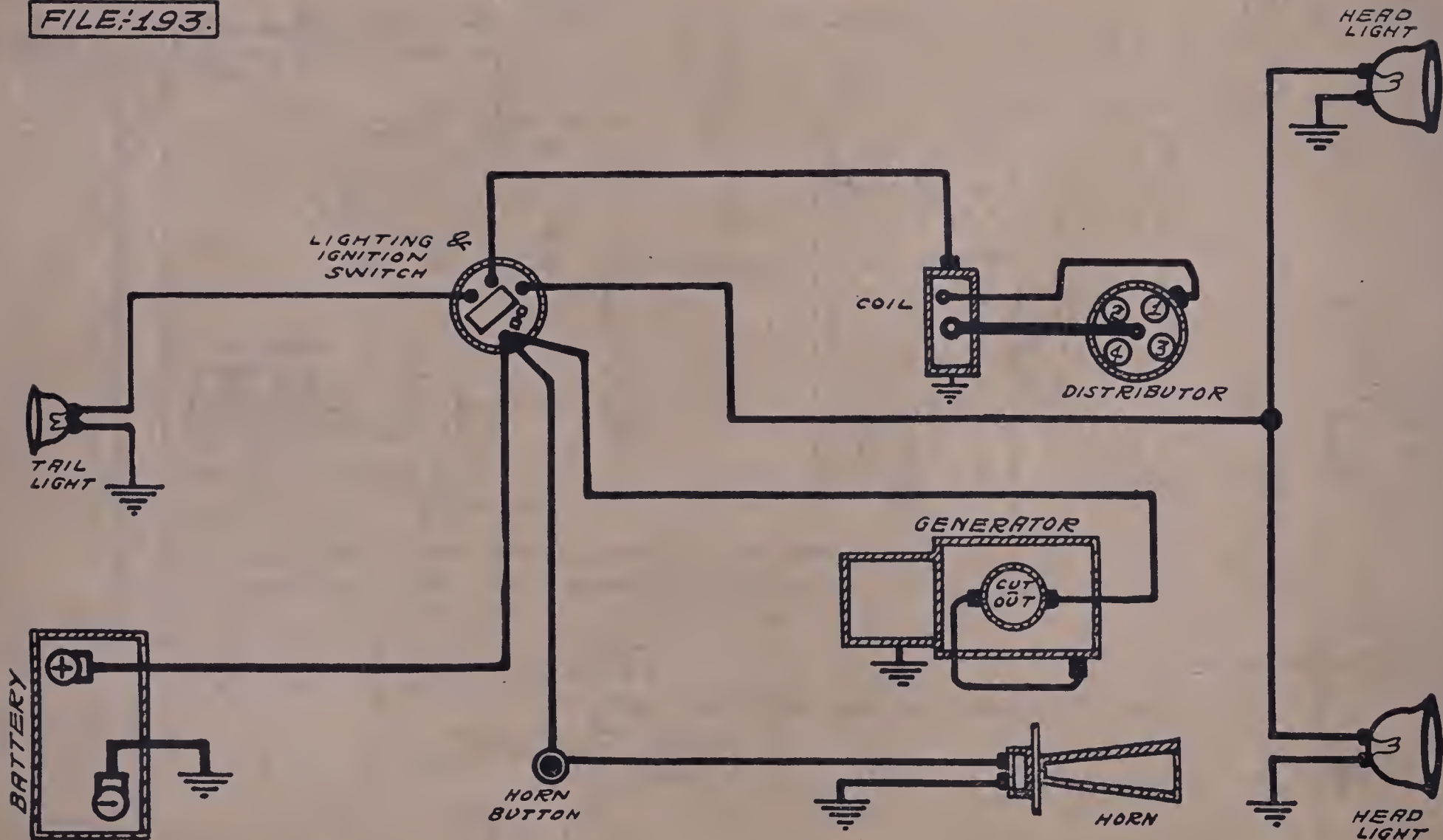
MAXWELL
TWO UNIT SYSTEM.
6-VOLT, - SIMMS-HUFF SYSTEM.

FILE: 198.



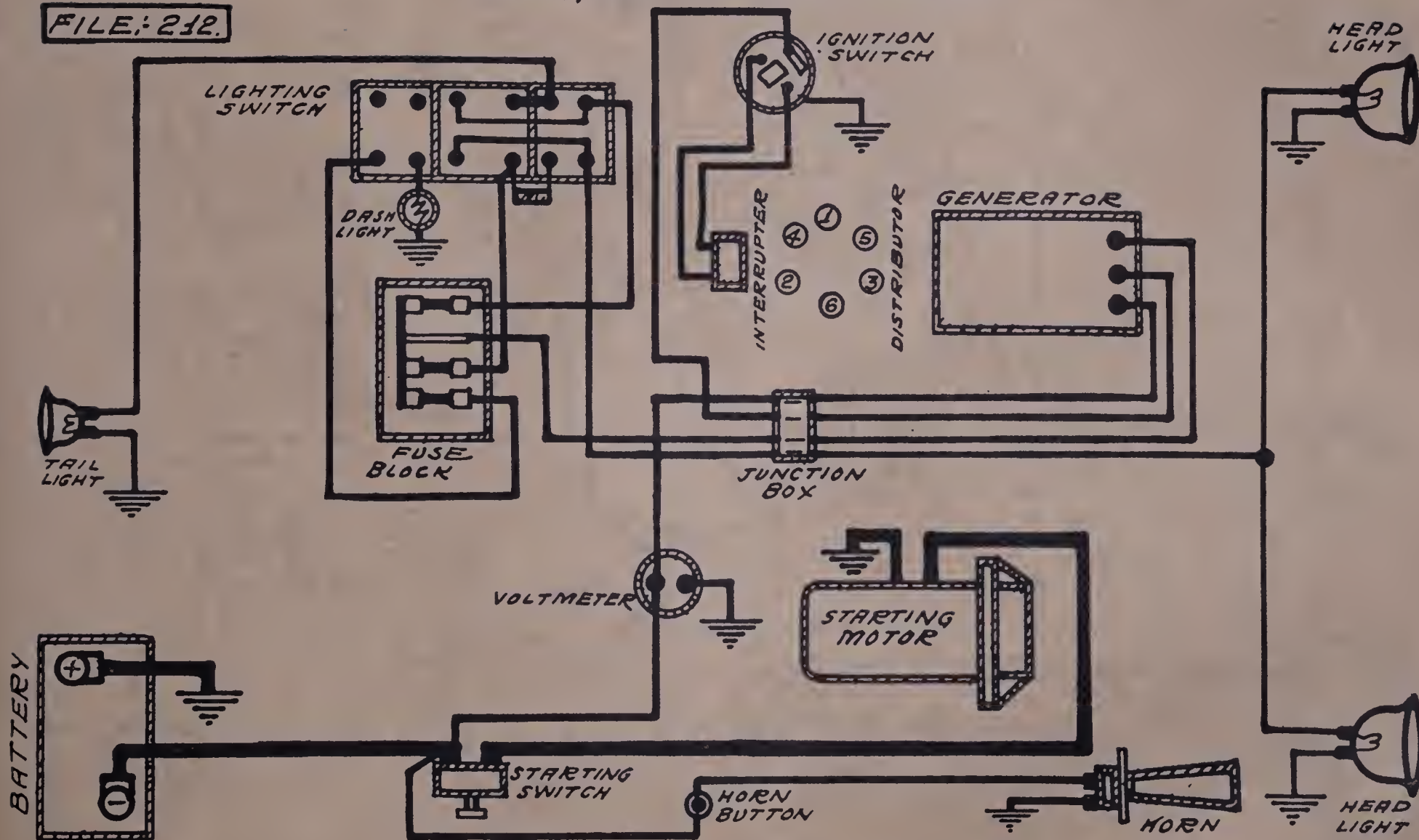
MAXWELL
- ONE TON TRUCK -
6-VOLT, -AUTOLITE LIGHTING SYSTEM.

FILE:193.



Mc.FARLAN 1915 MODEL 6-VOLT, WESTINGHOUSE SYSTEM.

FILE: 212.

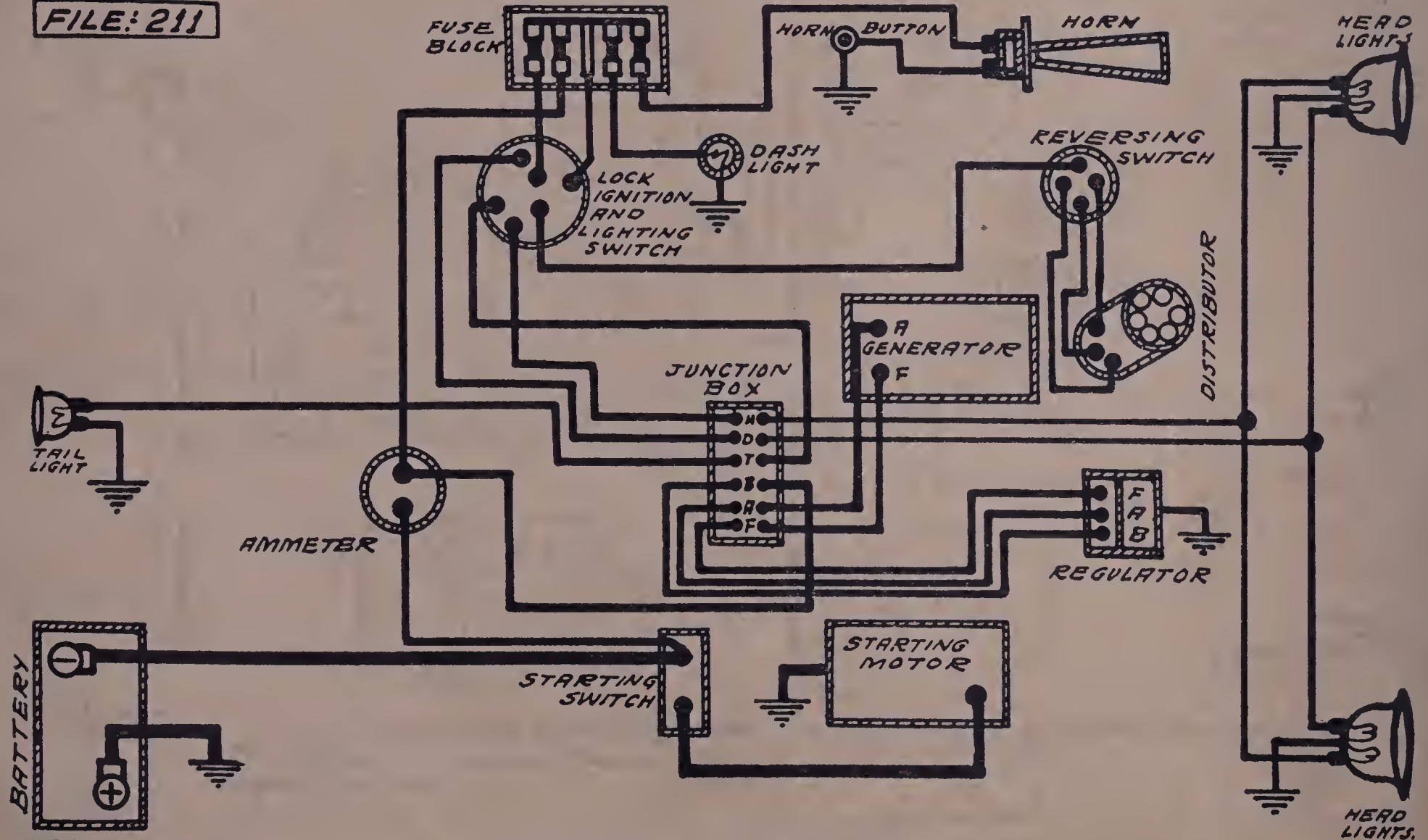


McFARLAN

1916

6-VOLT, WESTINGHOUSE SYSTEM.

FILE: 211

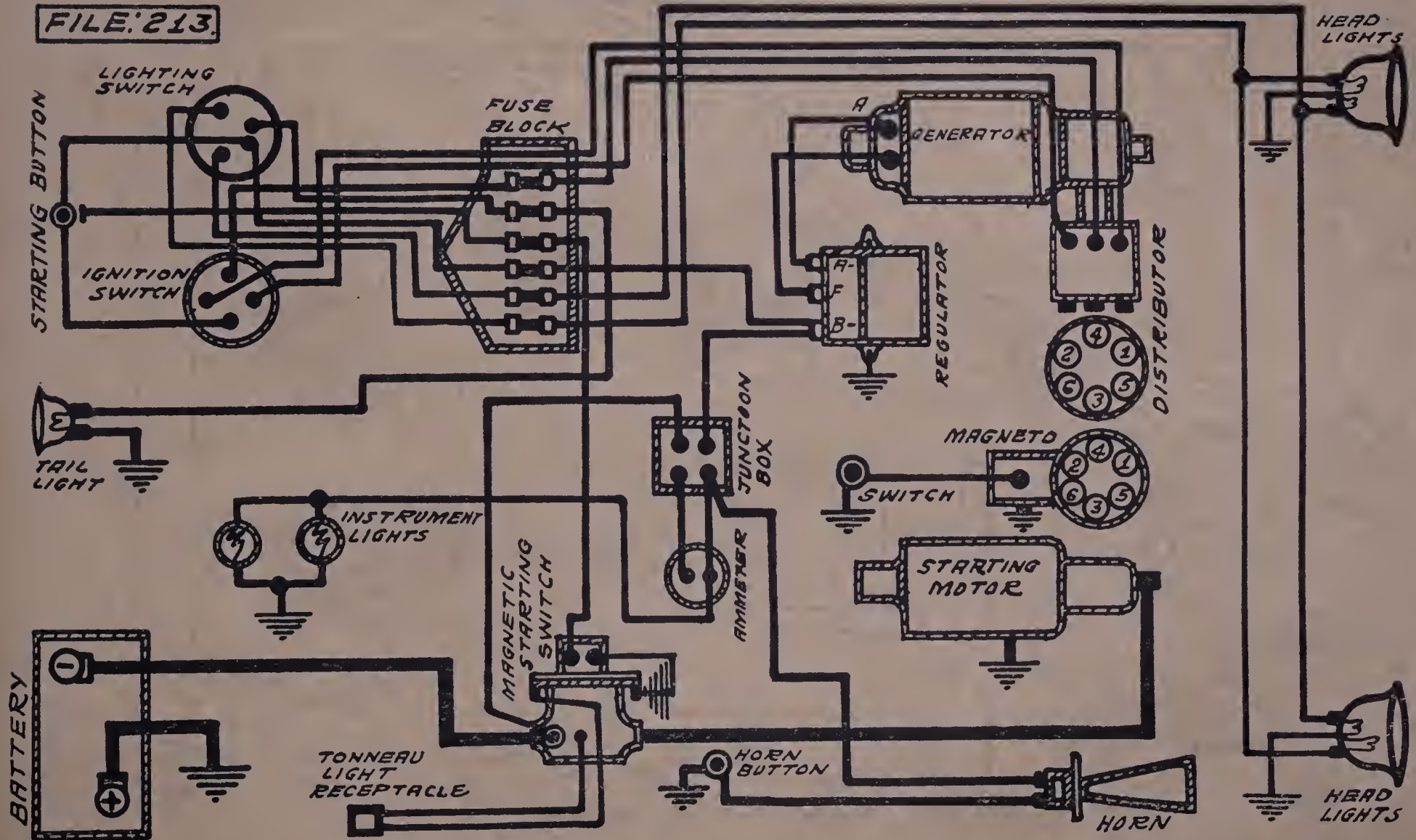


McFARLAN

1917-1918-1919

MODEL - McFARLAN SIX
6-VOLT, WESTINGHOUSE SYSTEM.

FILE: 213.



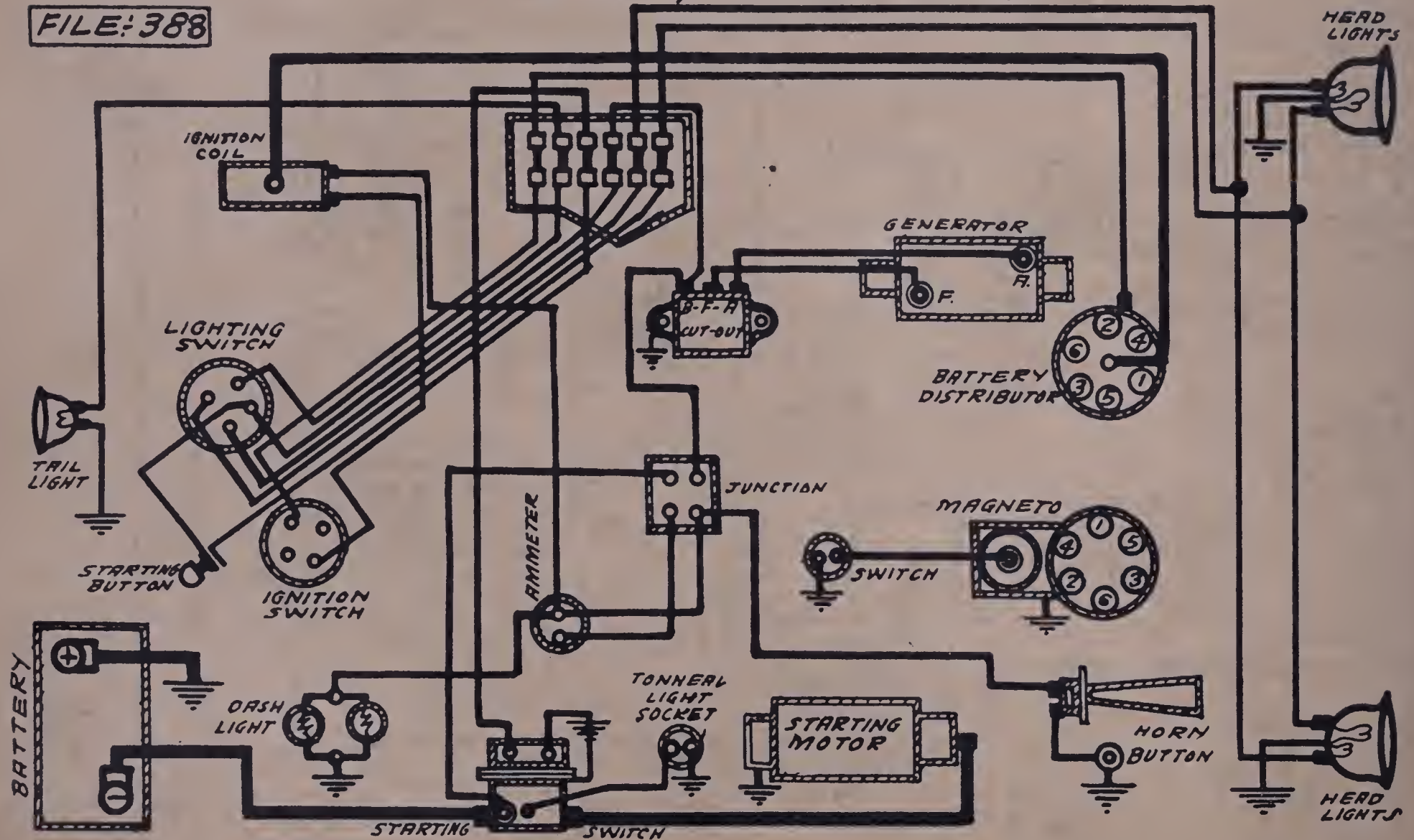
McFARLAN

1920.

MODEL-127.

6-VOLT, -DYNETO SYSTEM.

FILE: 388

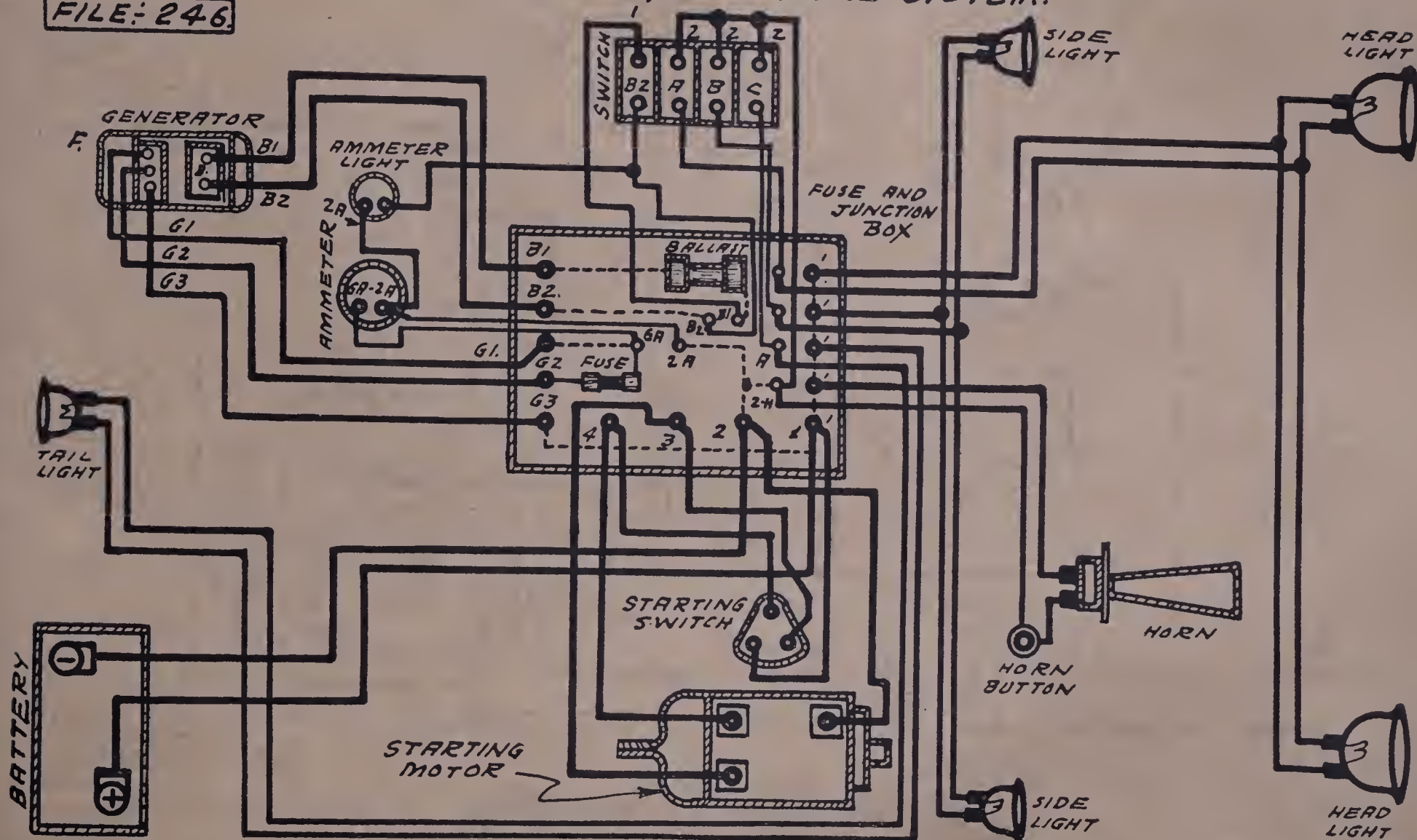


1914

MERCER

MODELS 35-G, H, -K.
6-VOLT, RUSHMORE SYSTEM.

FILE: 246



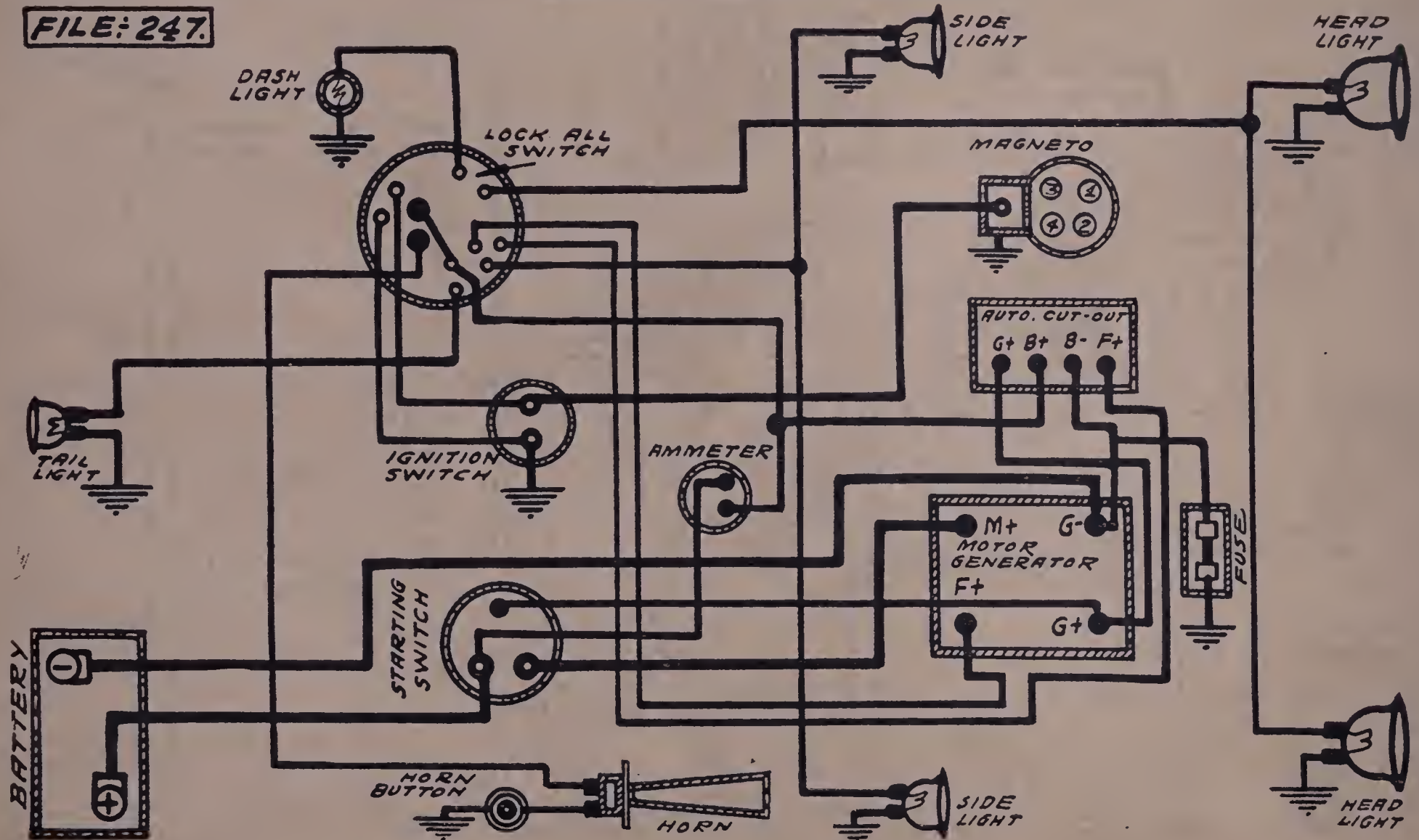
MERCER

1915

MODEL 22-70

12-VOLT, U.S.L. SYSTEM.

FILE: 247.



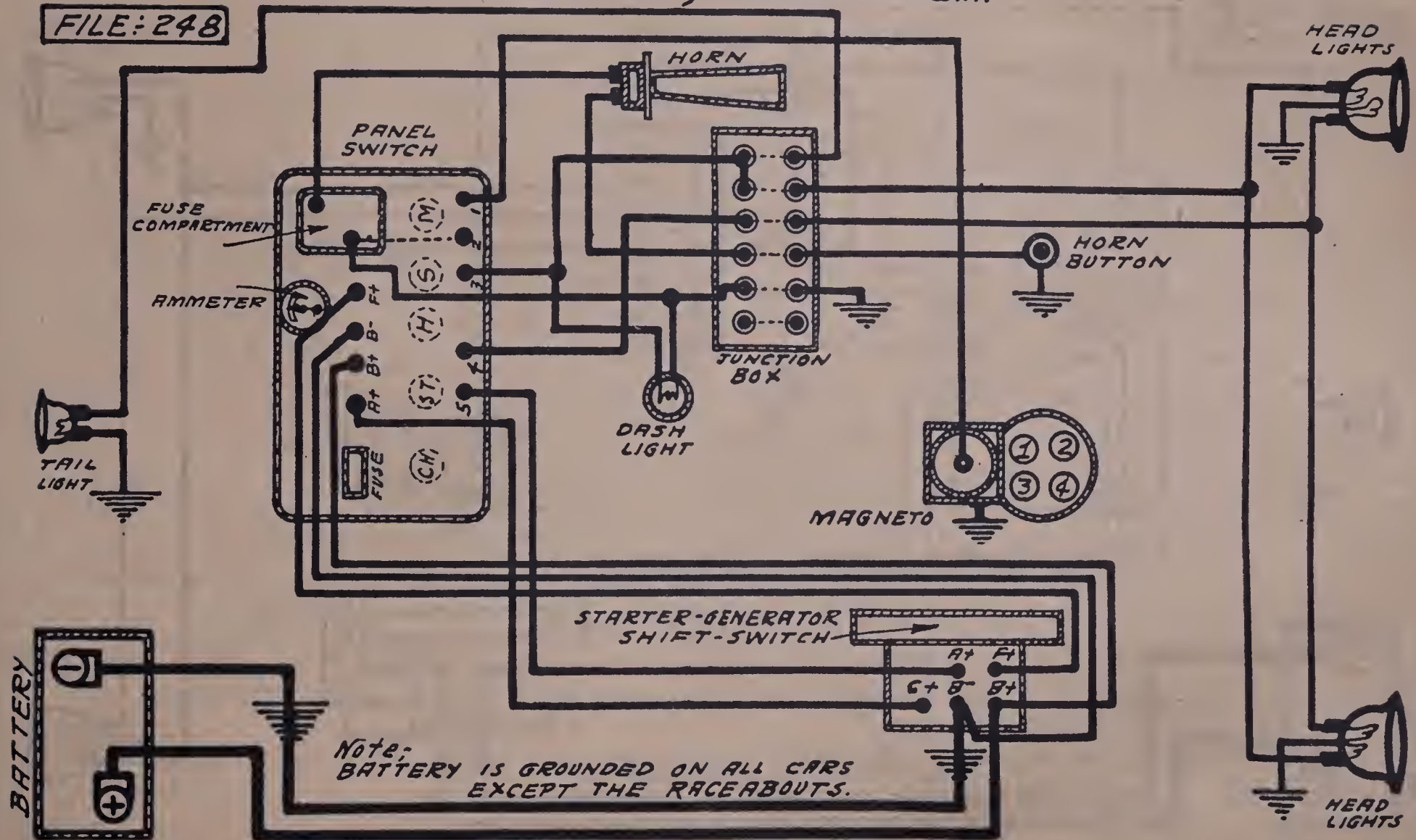
MERCER

1916

MODEL 22-70.

12-VOLT, - U.S.L. SYSTEM.

FILE: 248



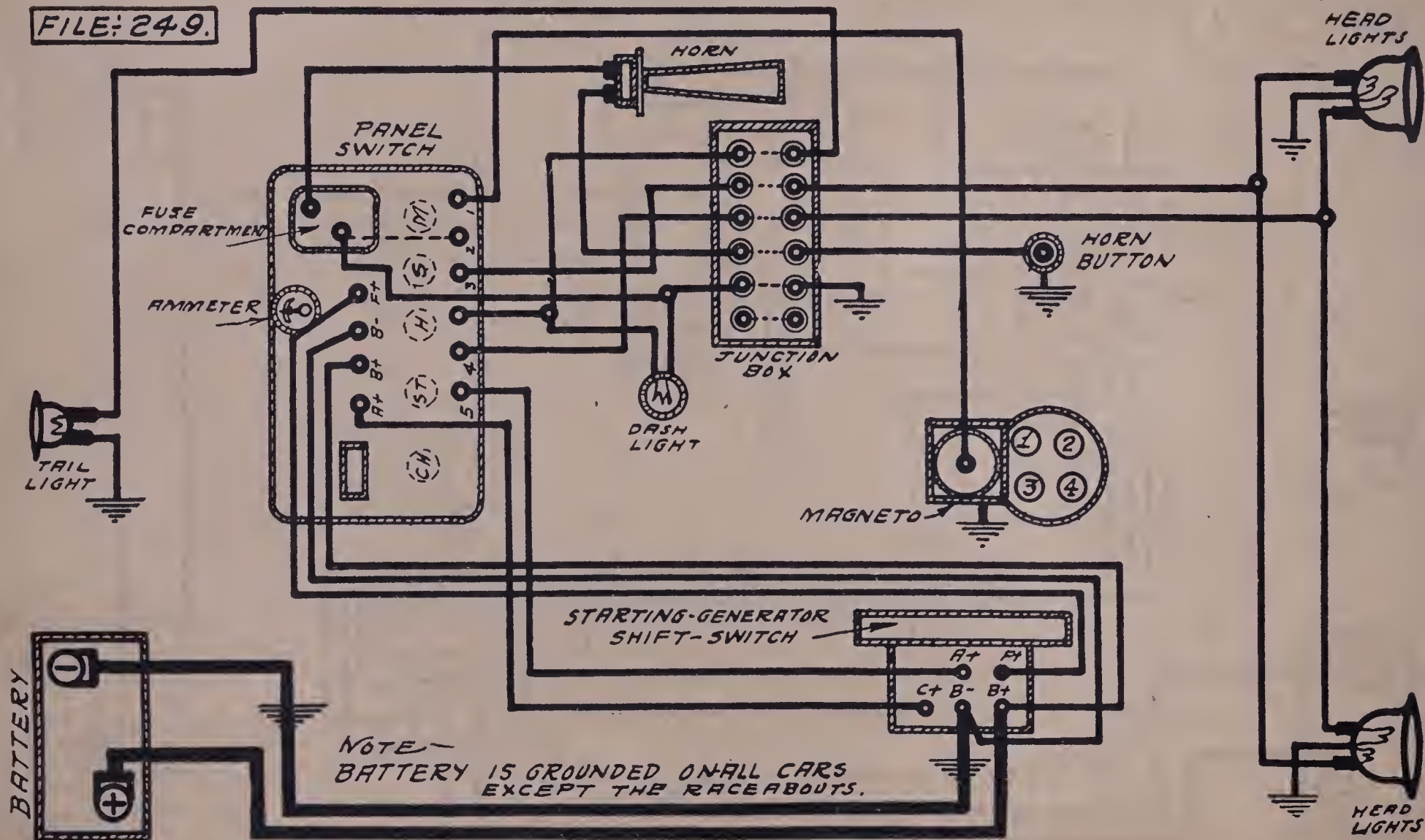
MERCER

1917

MODELS - 22-73.

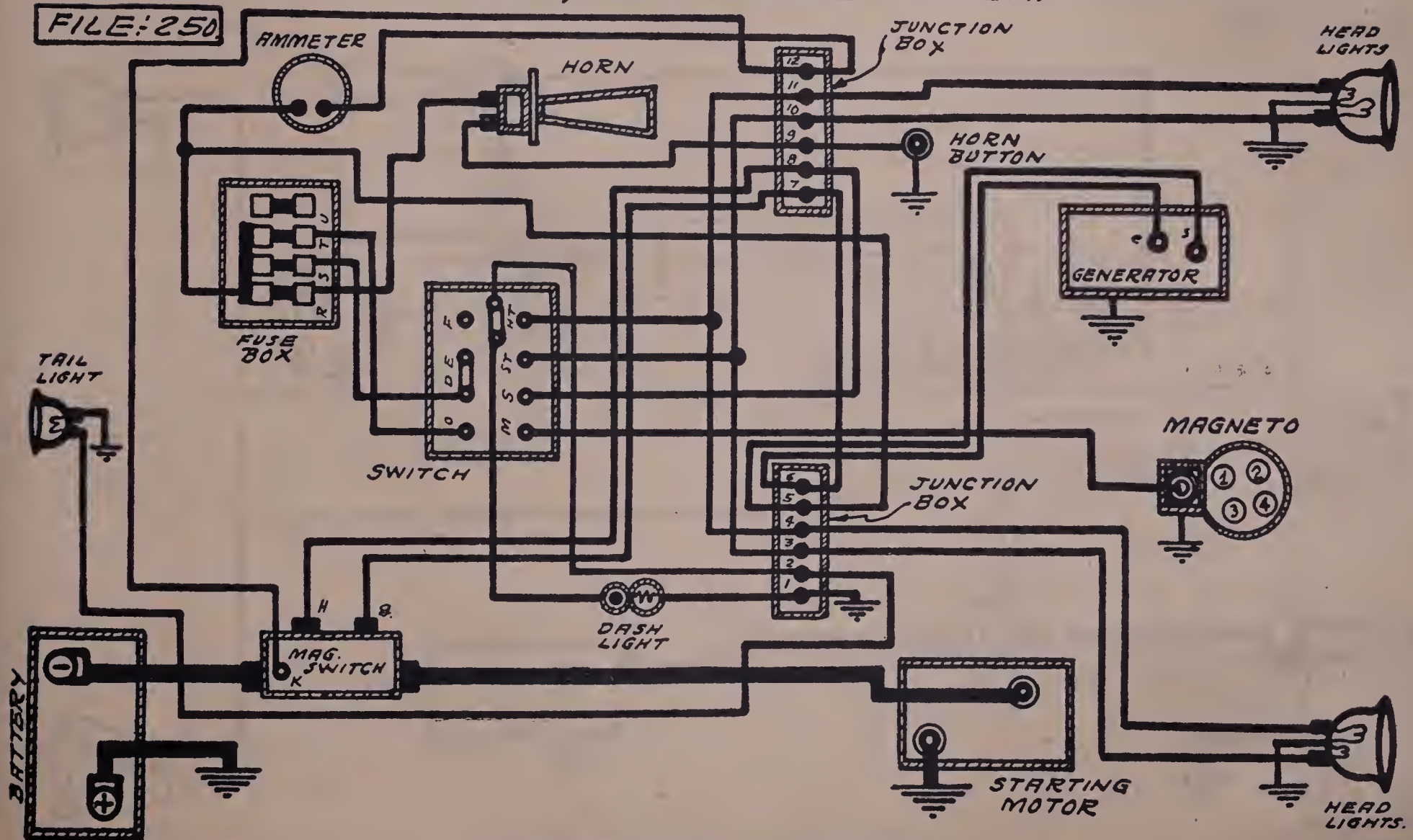
12-VOLT-U.S.L. SYSTEM.

FILE: 249.



MERCER

1918-1919-1920 MODELS, -22-74, 4.
6-VOLT, WESTINGHOUSE SYSTEM.



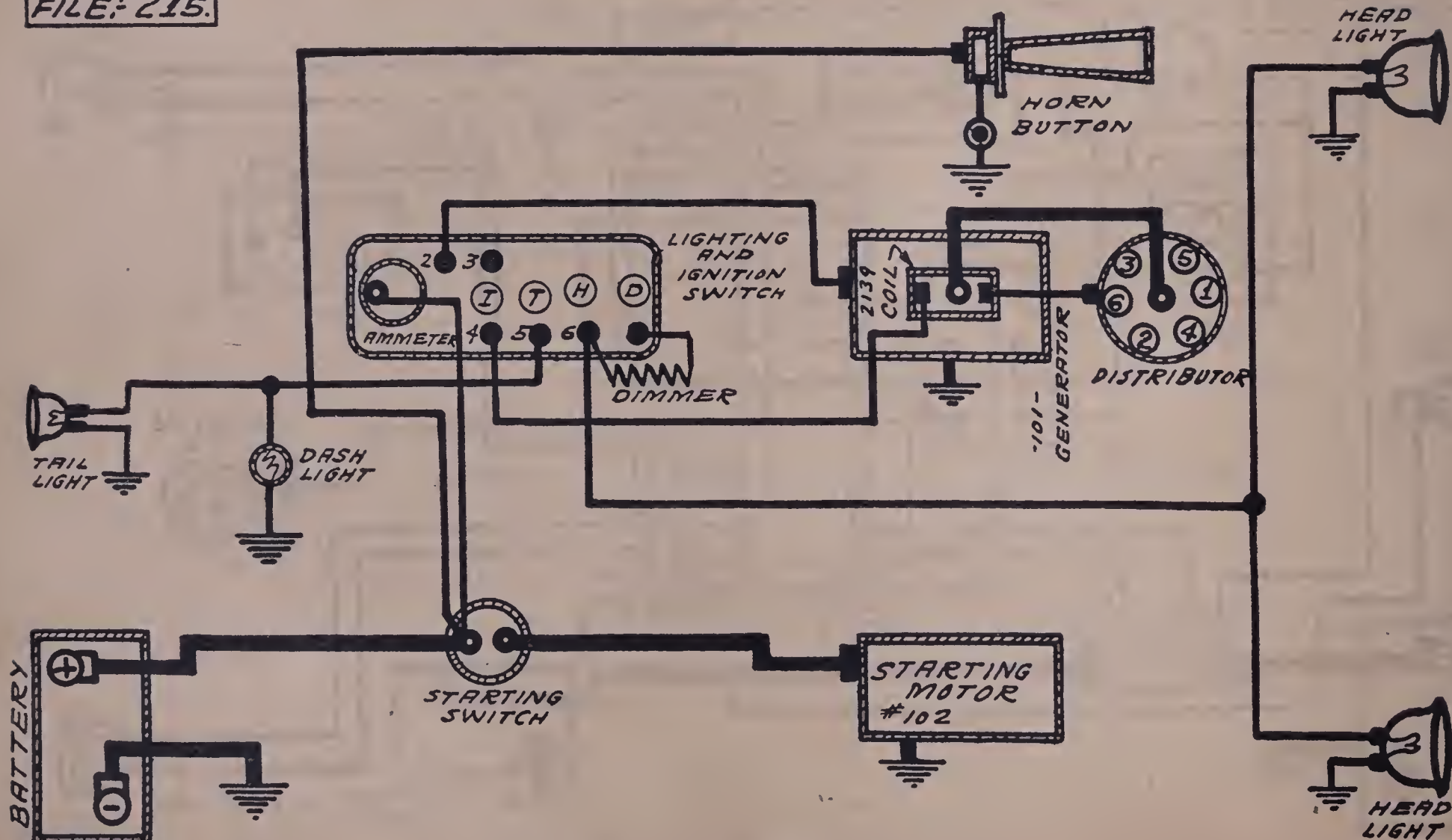
METEOR

1917-MODELS, 75,80.

1919 MODEL 75,80.

6-VOLT,-DELCO SYSTEM.

FILE: 215.

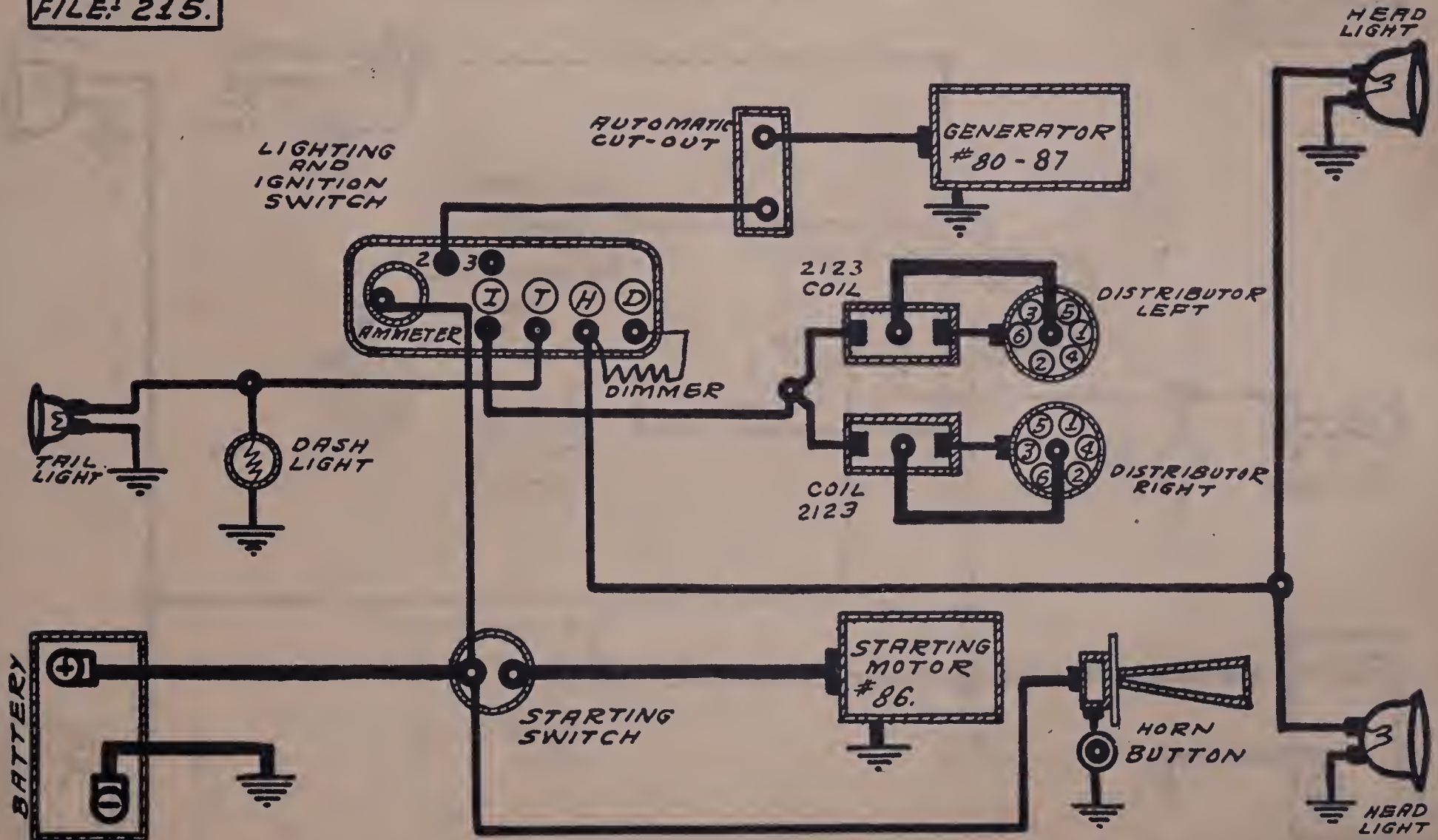


METEOR

1917-1918

MODELS-75-A, 80-A.

FILE: 215.



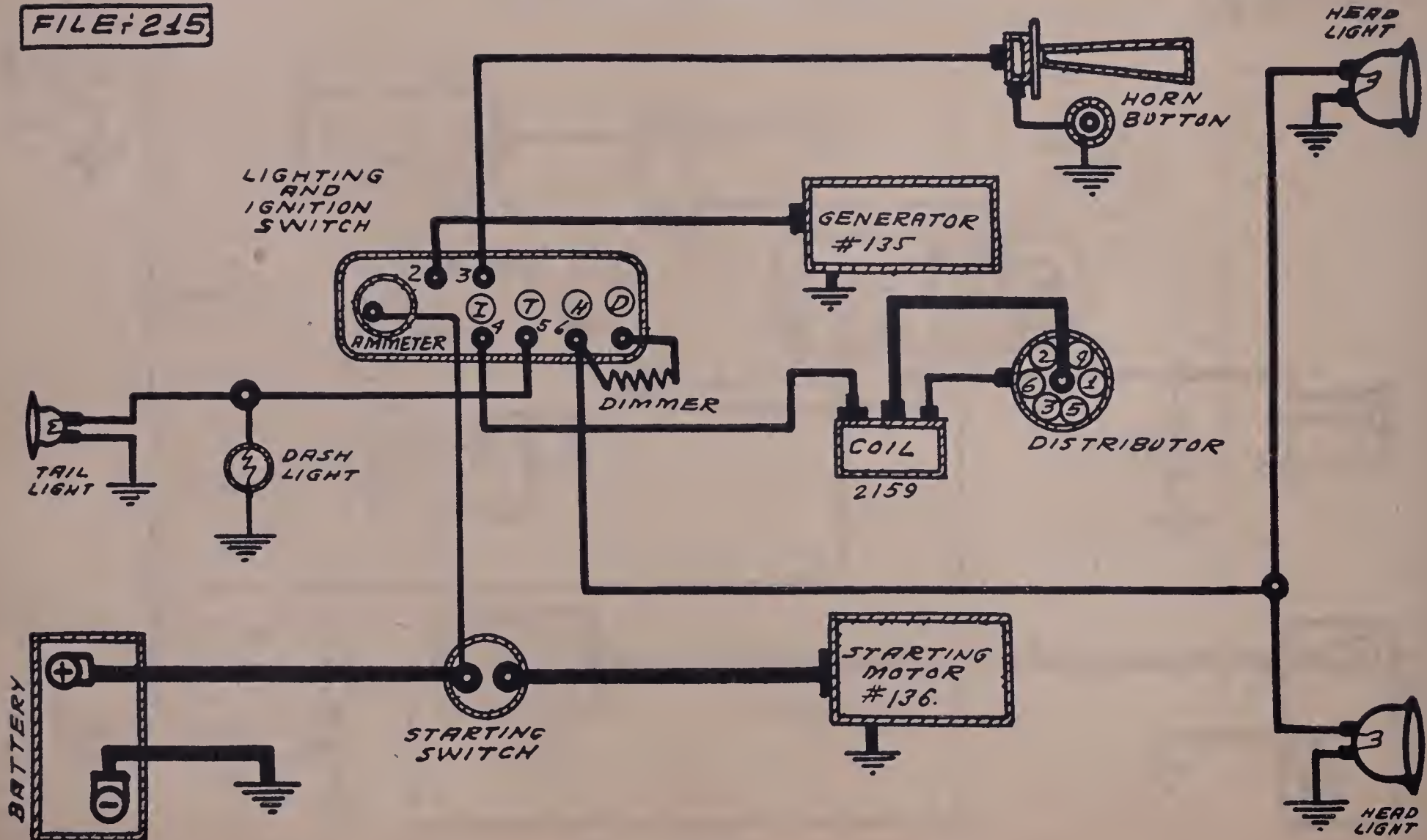
METEOR

1918

MODELS-75,80,82,90,91,92

6-VOLT,-DELCO SYSTEM.

FILE #215

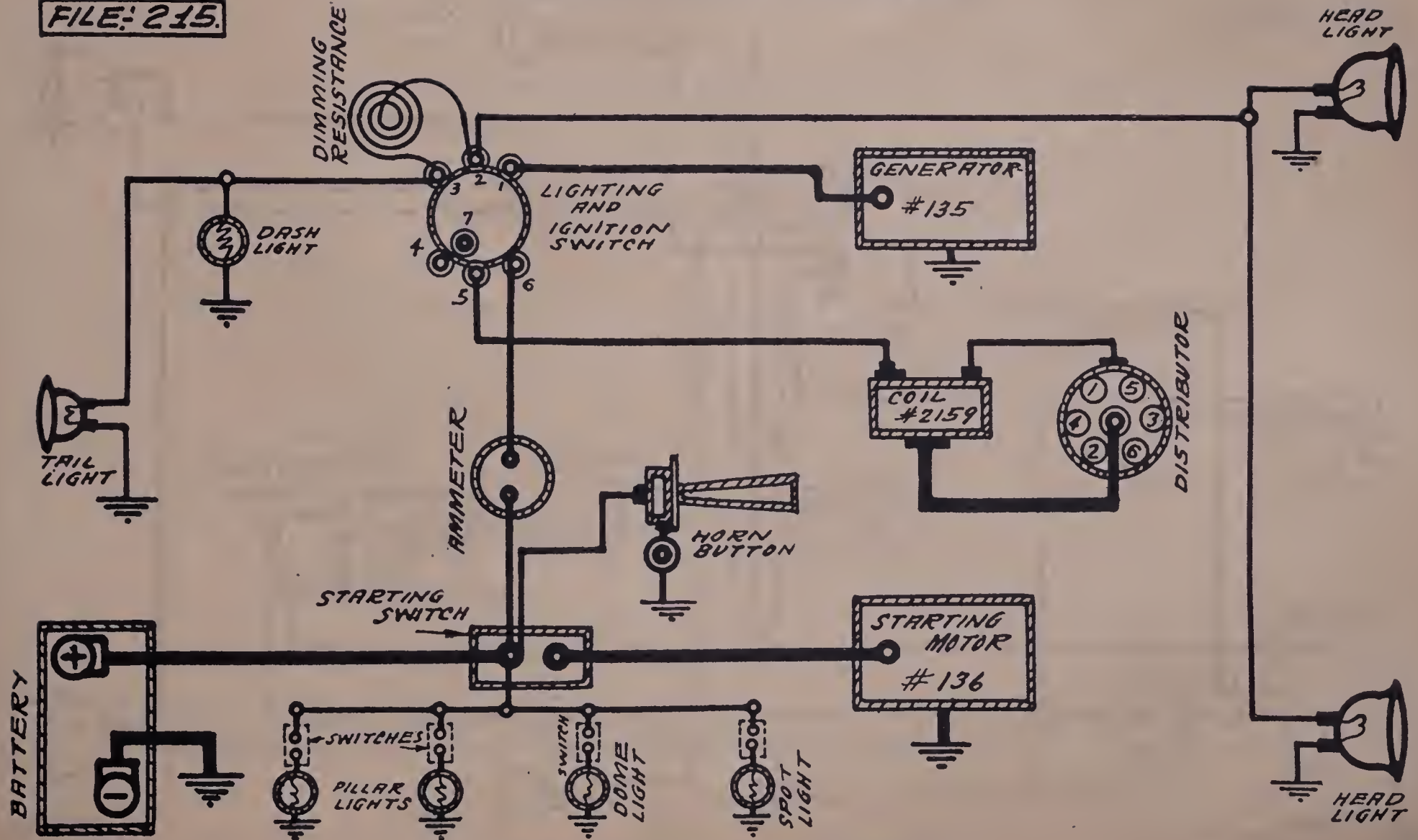


1920

METEOR

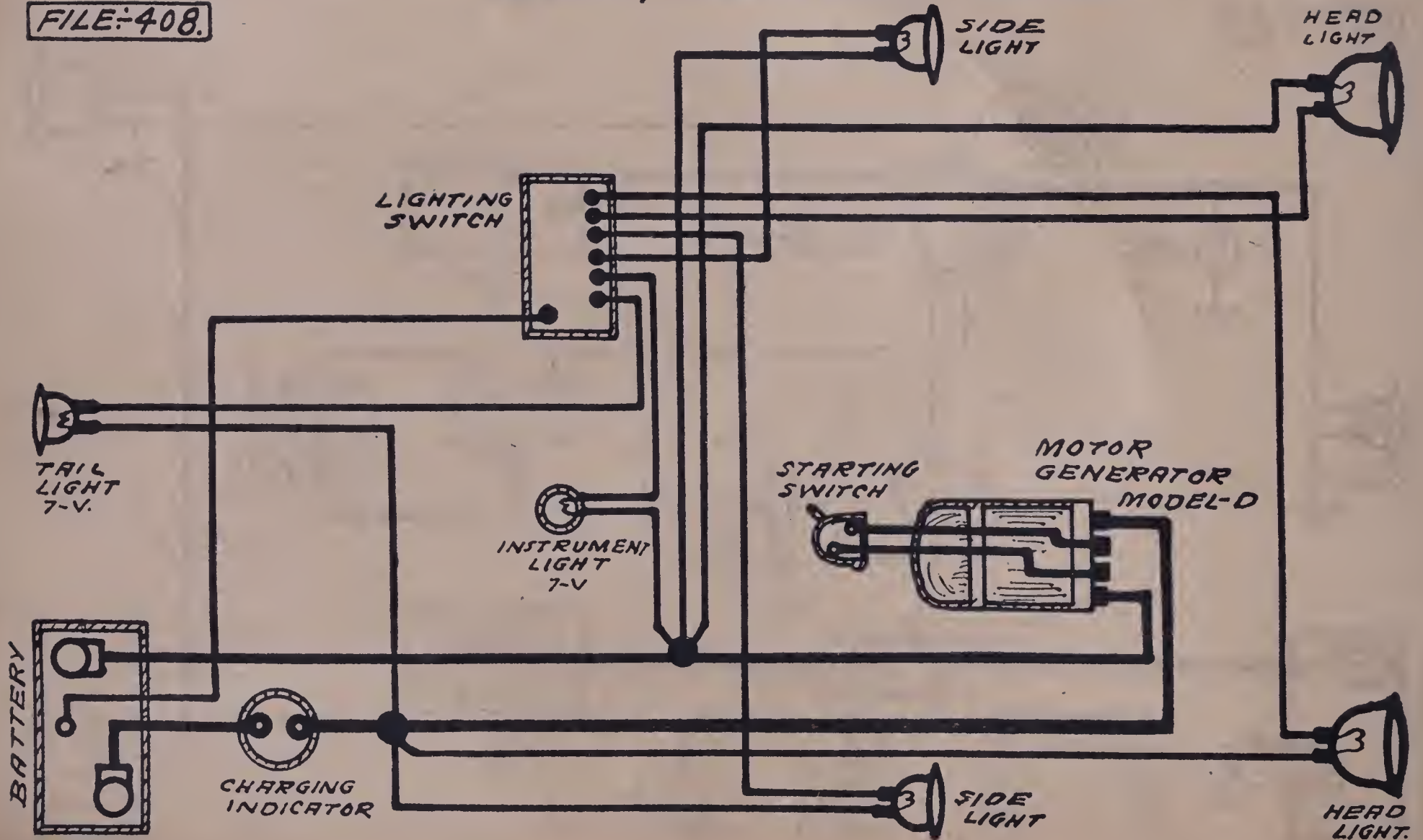
USING 9-N-CONTINENTAL ENGINE.
6-VOLT, DELCO SYSTEM.

FILE: 215.



METZ
LATE 1914 MODELS.
12-VOLT, - NORTH EAST SYSTEM.

FILE-408.



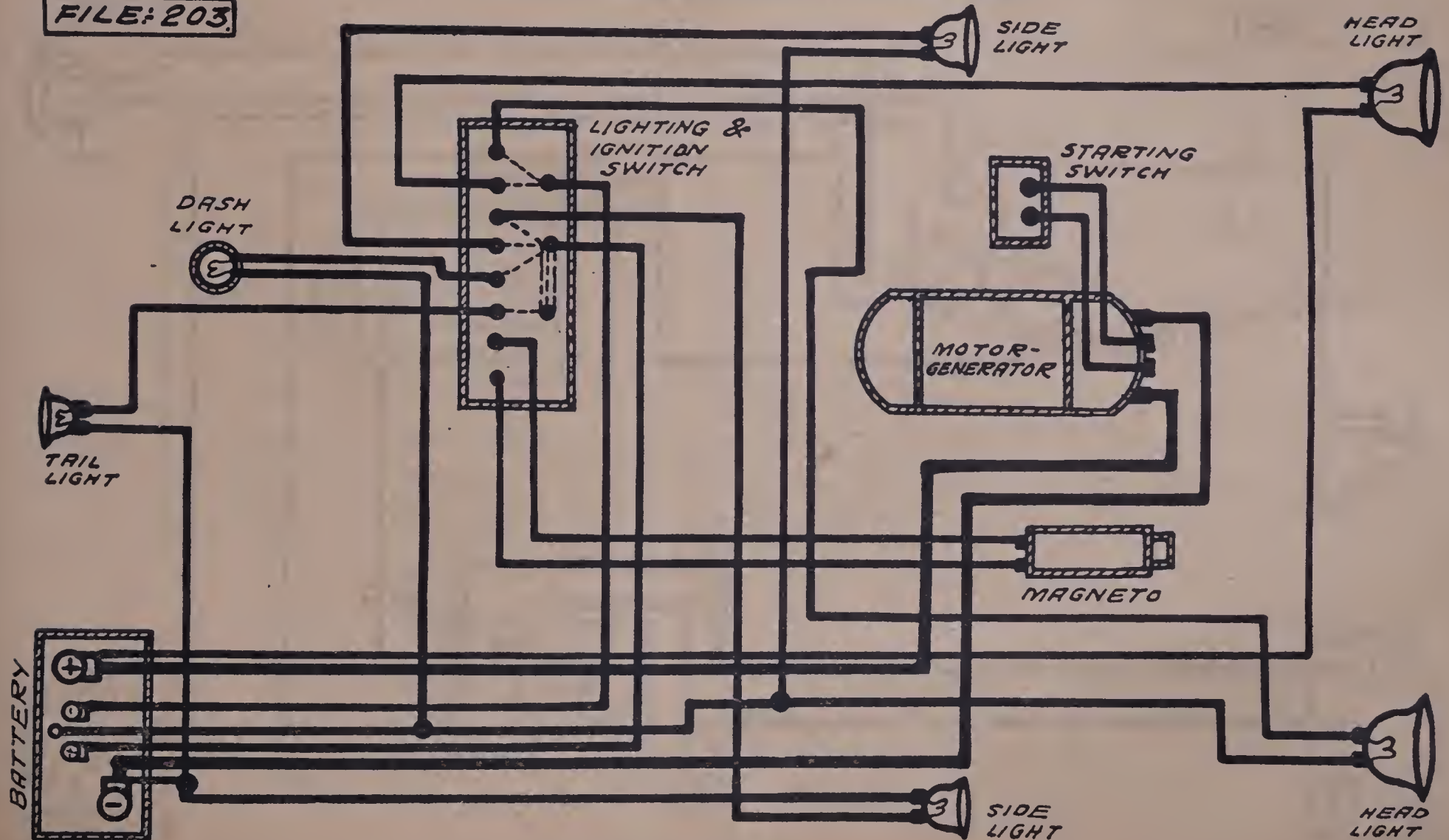
METZ

1914

MODEL E:

12-24 NORTH EAST SYSTEM.

FILE: 203.



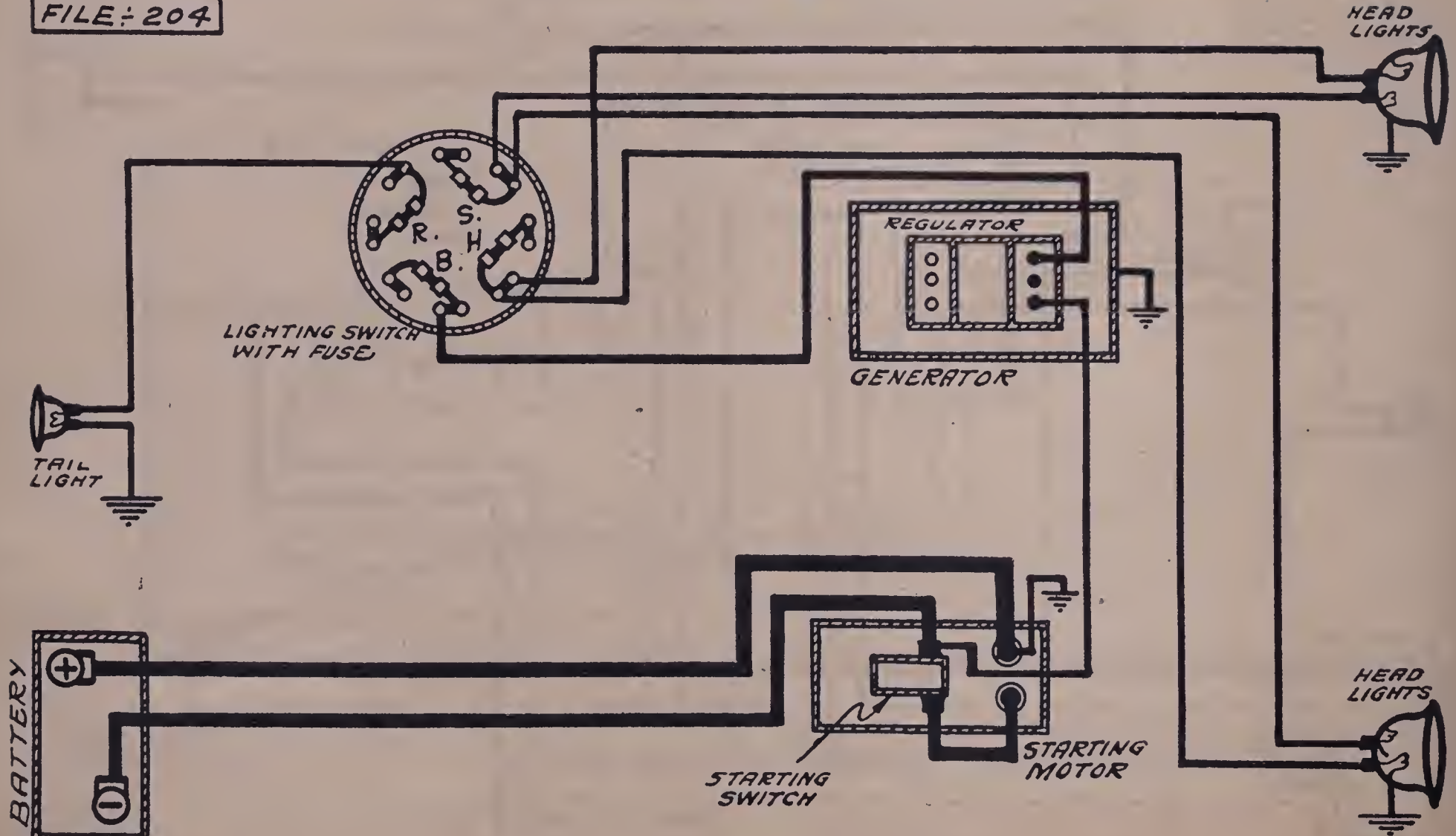
METZ

1915-1916-1917

MODEL G.

6-VOLT, GRAY & DAVIS SYSTEM.

FILE: 204



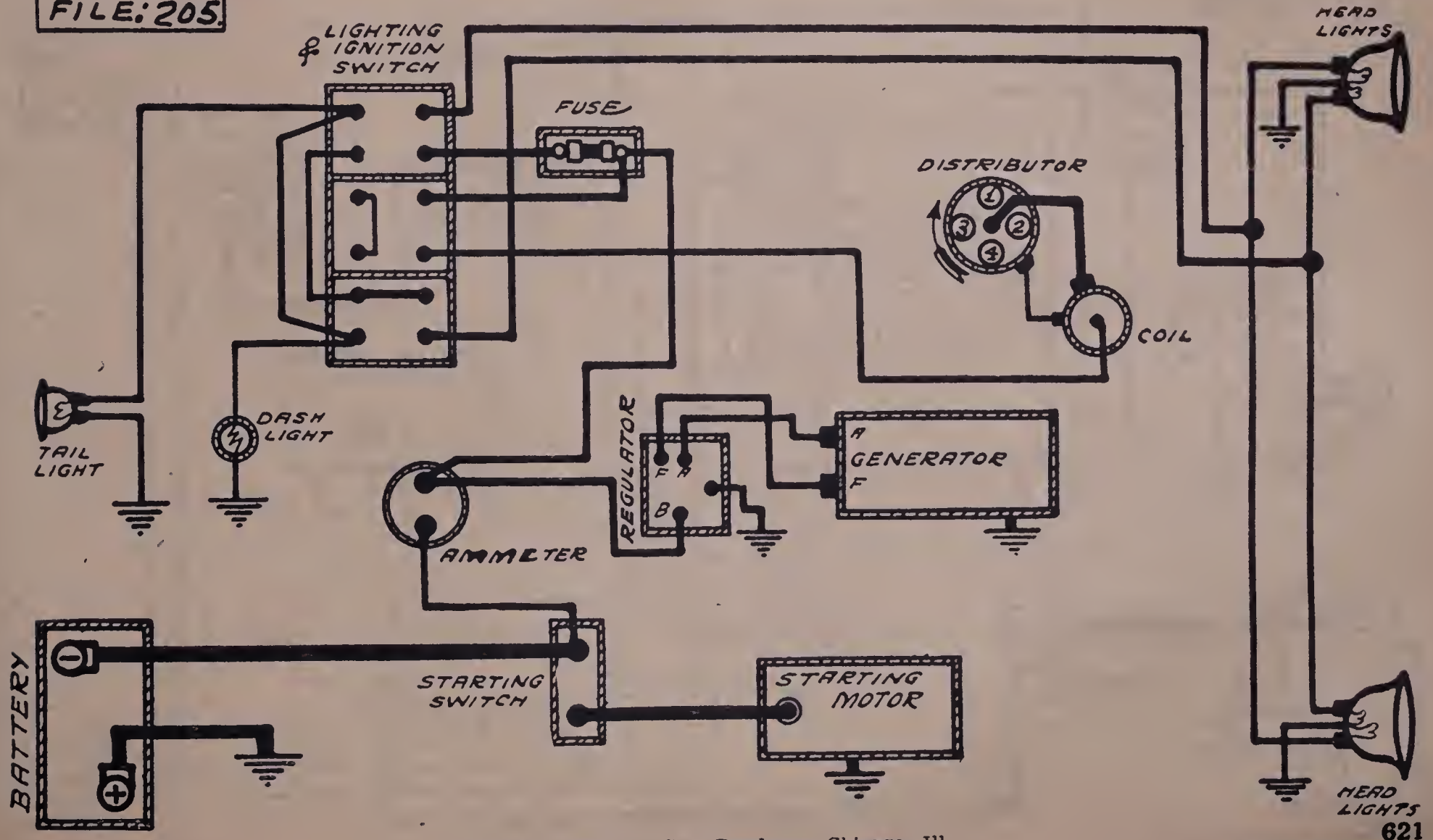
METZ

1917-1918

MODEL-G.

6-VOLT, WESTINGHOUSE SYSTEM.

FILE: 205.



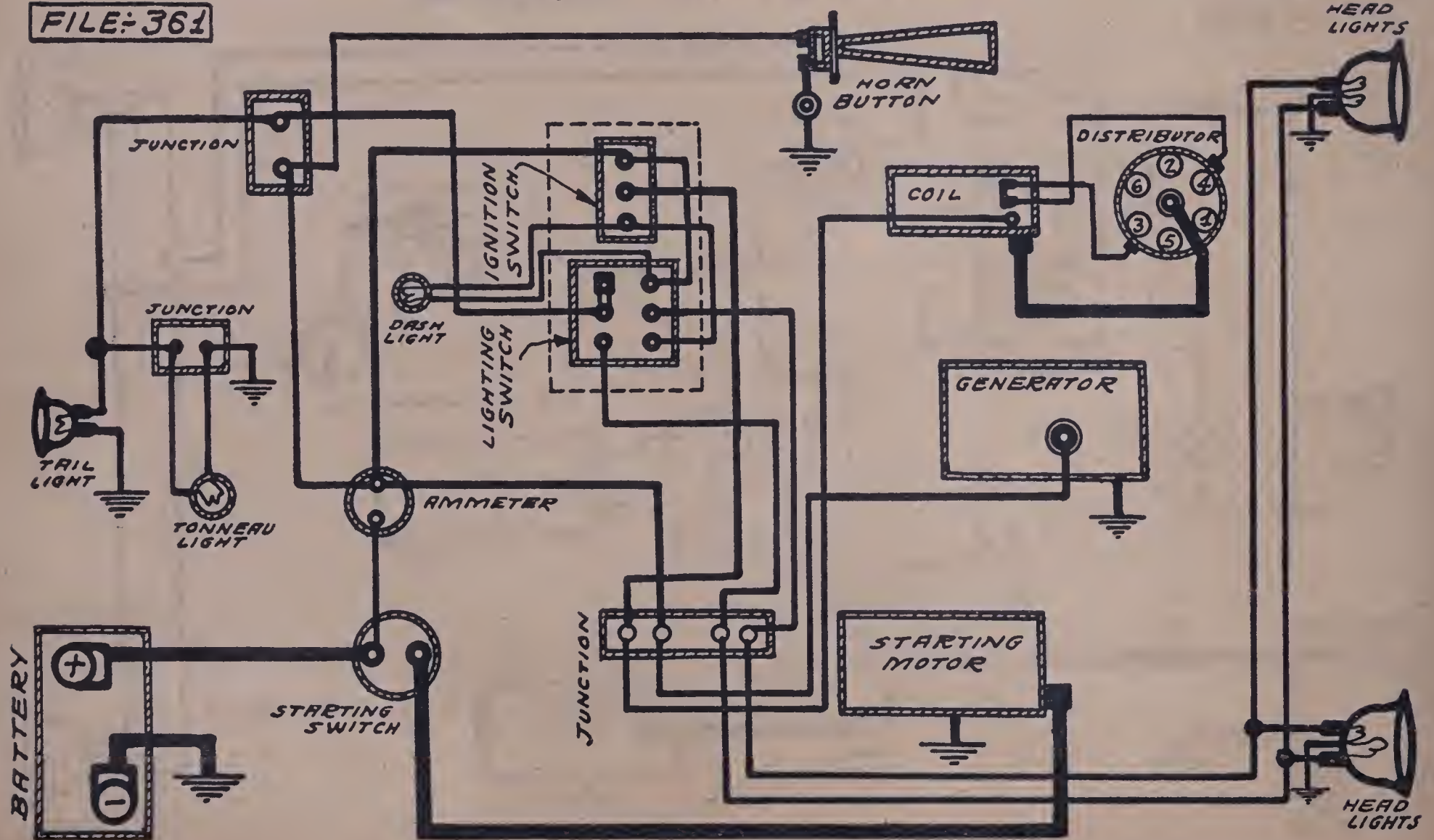
METZ

1919

MODEL MASTER SIX

6-VOLT, - AUTOLITE SYSTEM

FILE: 361

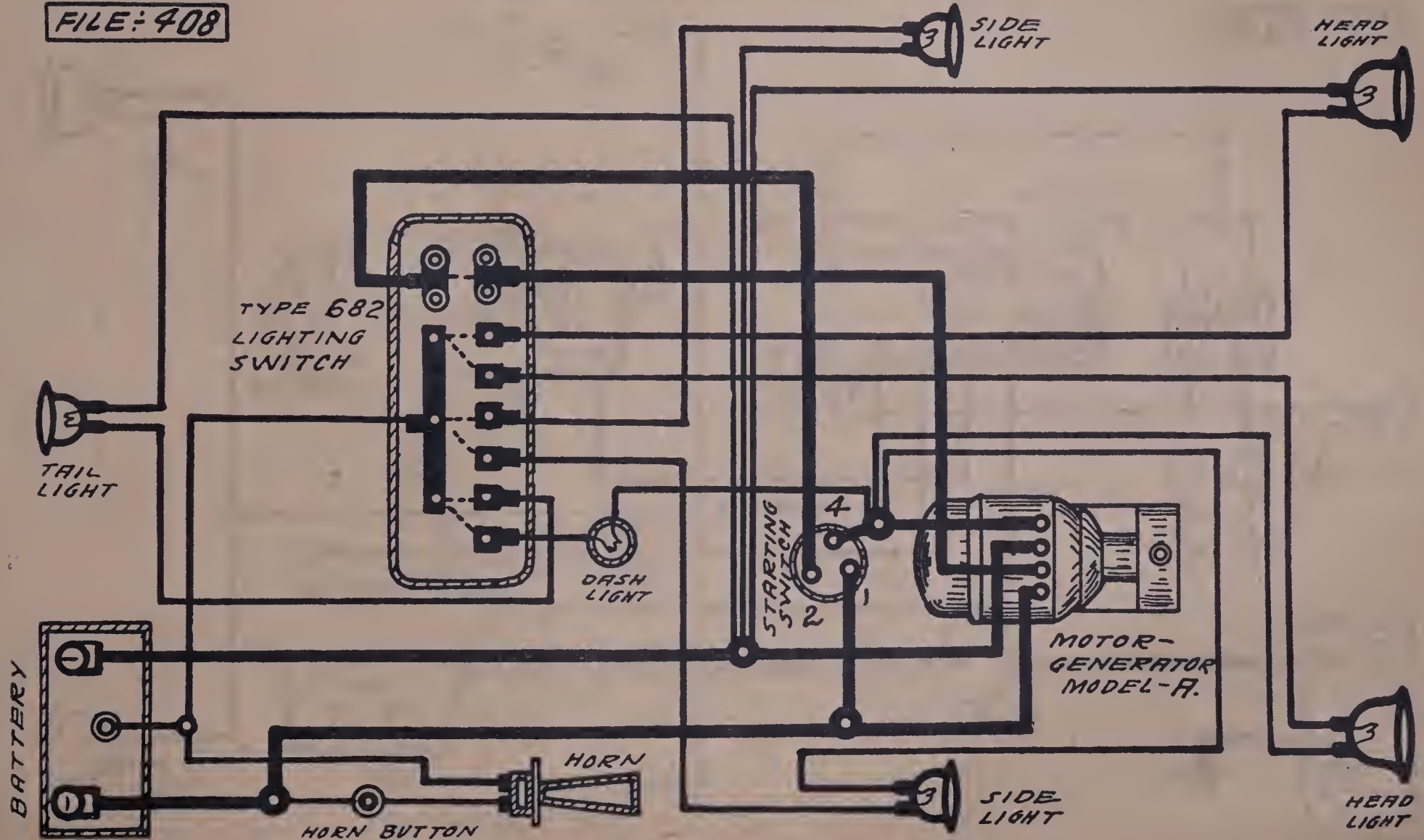


MICHIGAN

1913 MODELS.

16-VOLT, - NORTH EAST SYSTEM.

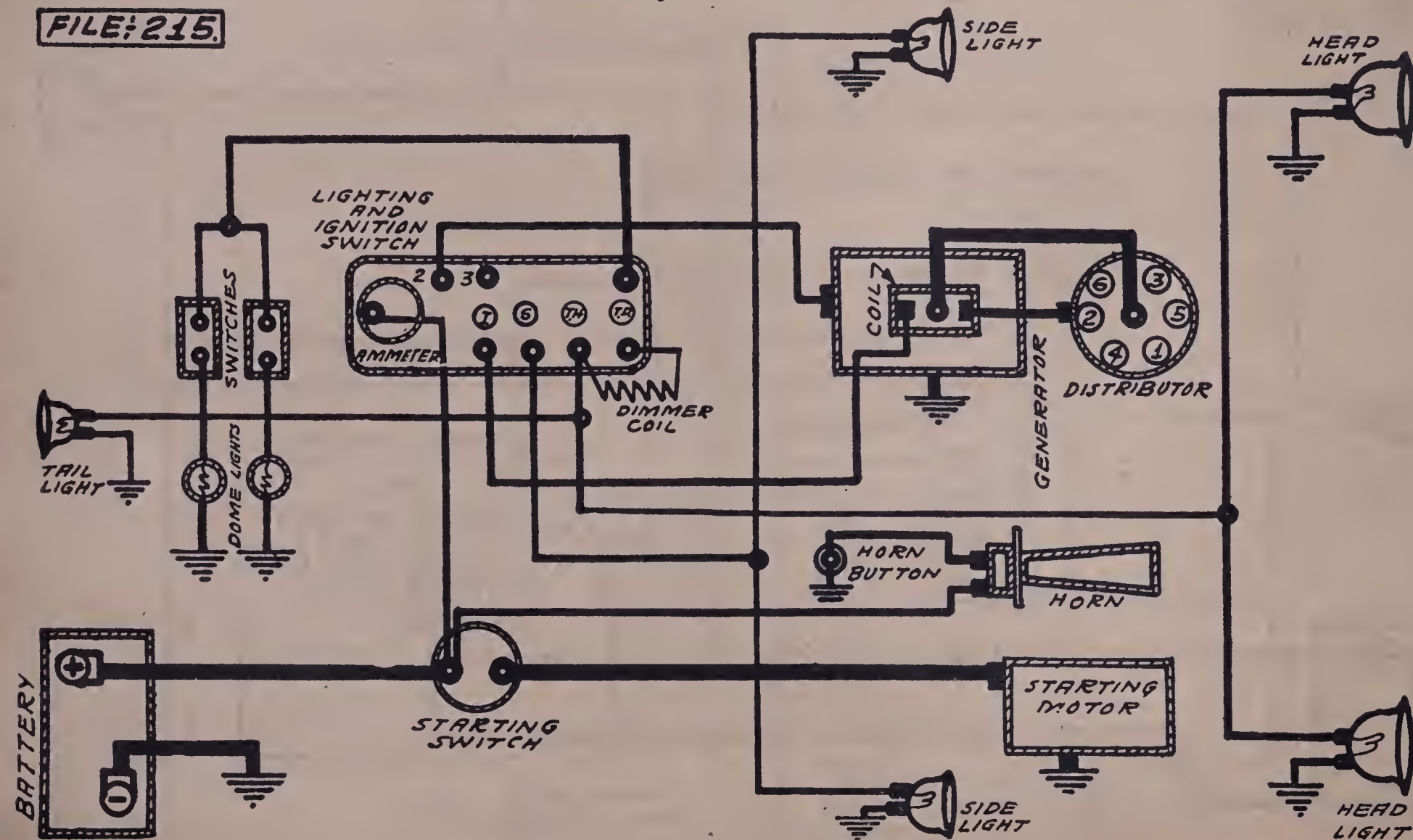
FILE: 408



MICHIGAN HEARSE AND MOTORS COMPANY

1917 'LIGHT SIX' AND 'BIG SIX' 1918-1919-LIGHT SIX.
6-VOLT, -DELCO SYSTEM.

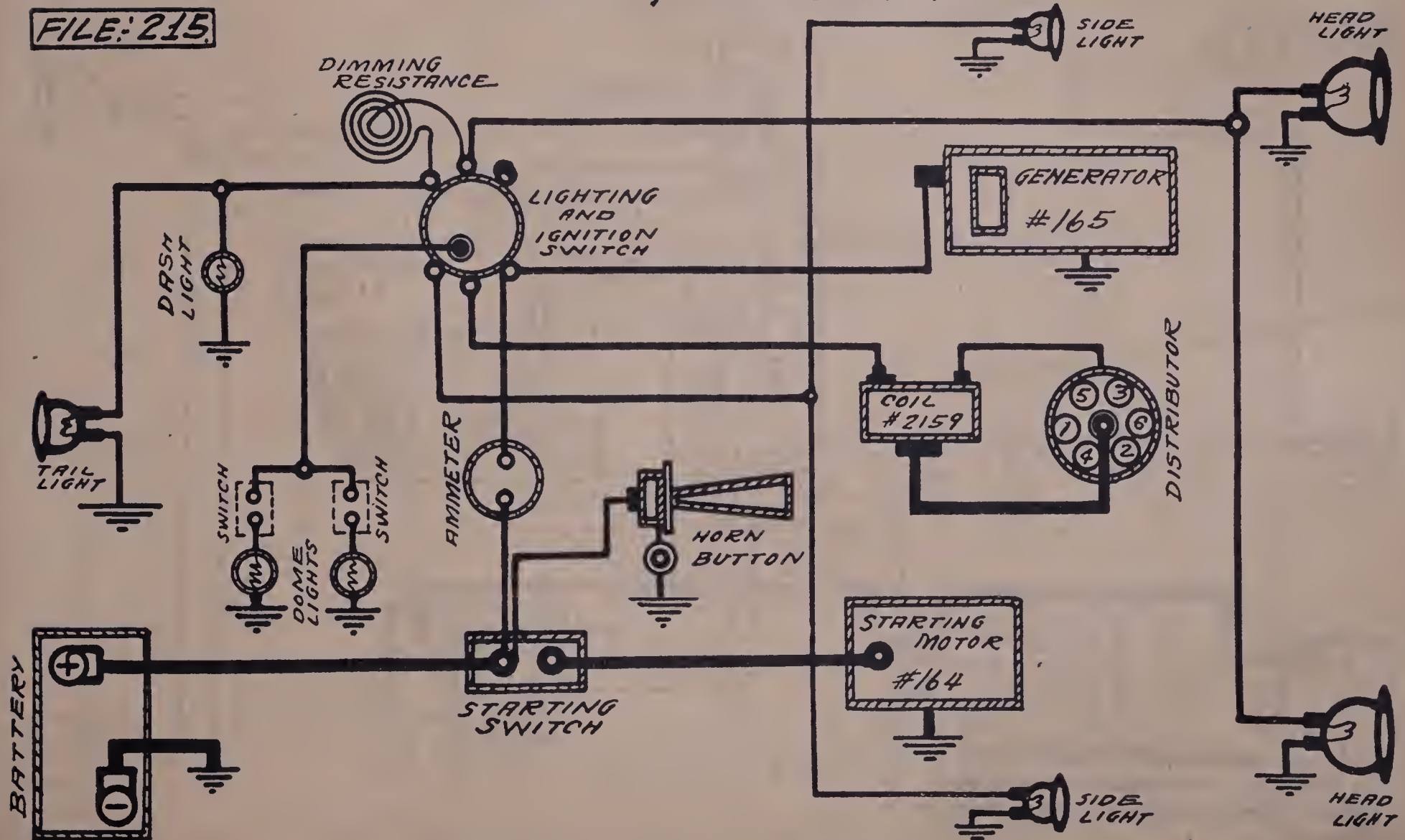
FILE: 215.



MICHIGAN HEARSE & MOTORS CO.

1920 MODEL USING 7-R CONTINETAL.
6-VOLT,- DELCO SYSTEM.

FILE: 215.

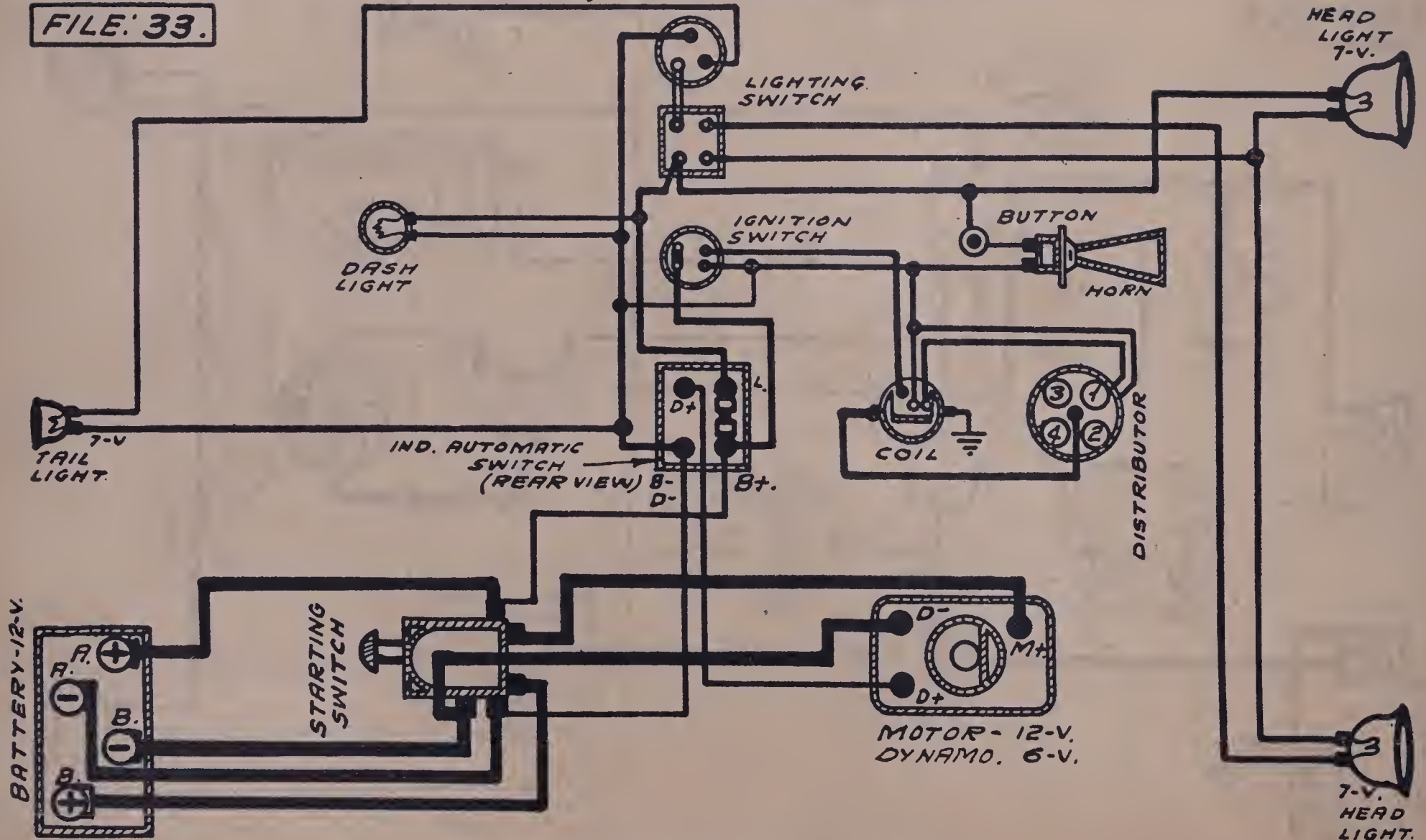


MITCHELL-LEWIS

1915

12-6-VOLT, SPLITDORF SYSTEM.

FILE: 33.



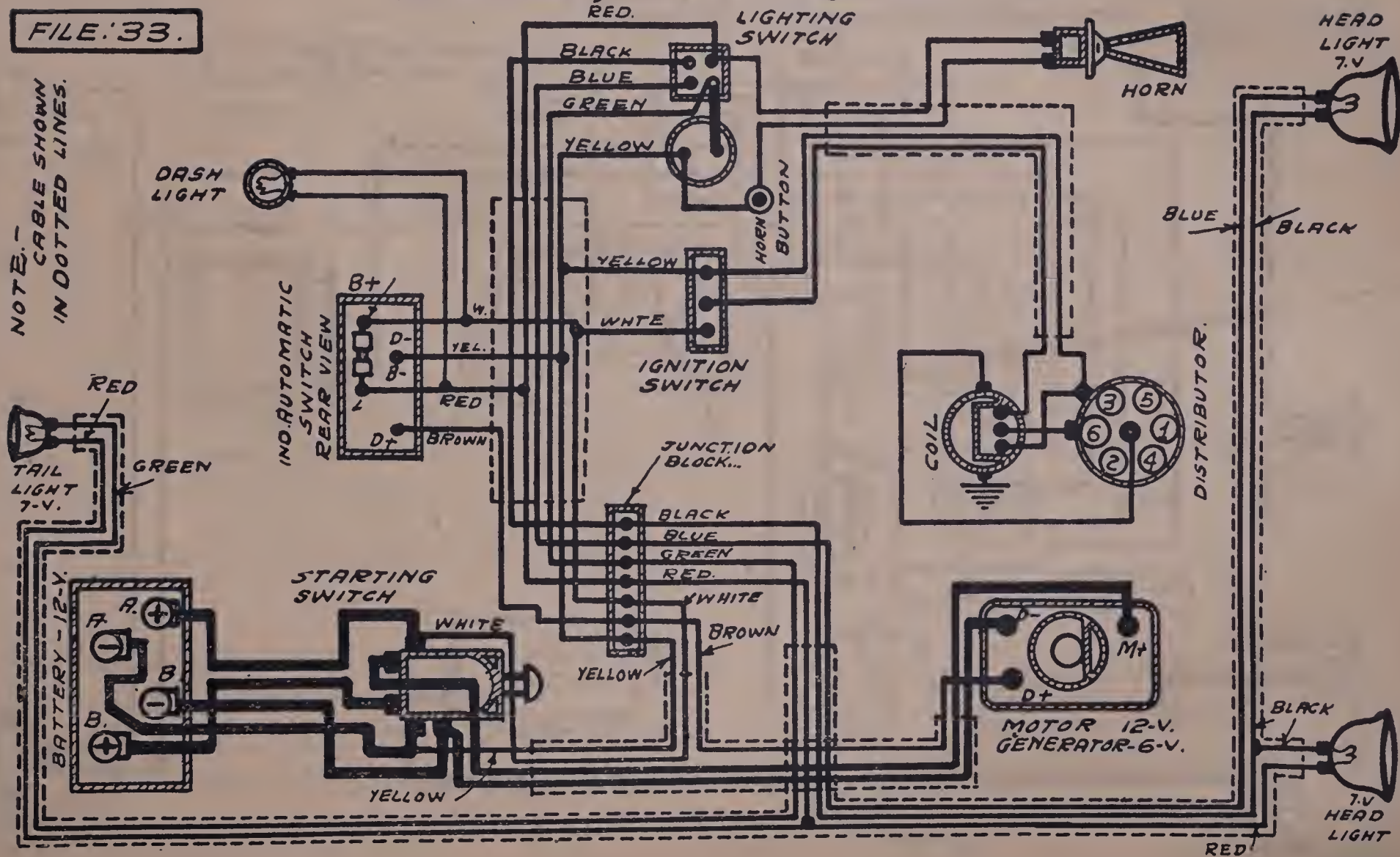
MITCHELL-LEWIS

1916

12-6-VOLT, SPLITDORF SYSTEM.

FILE: 33.

NOTE.-
CABLE SHOWN
IN DOTTED LINES.

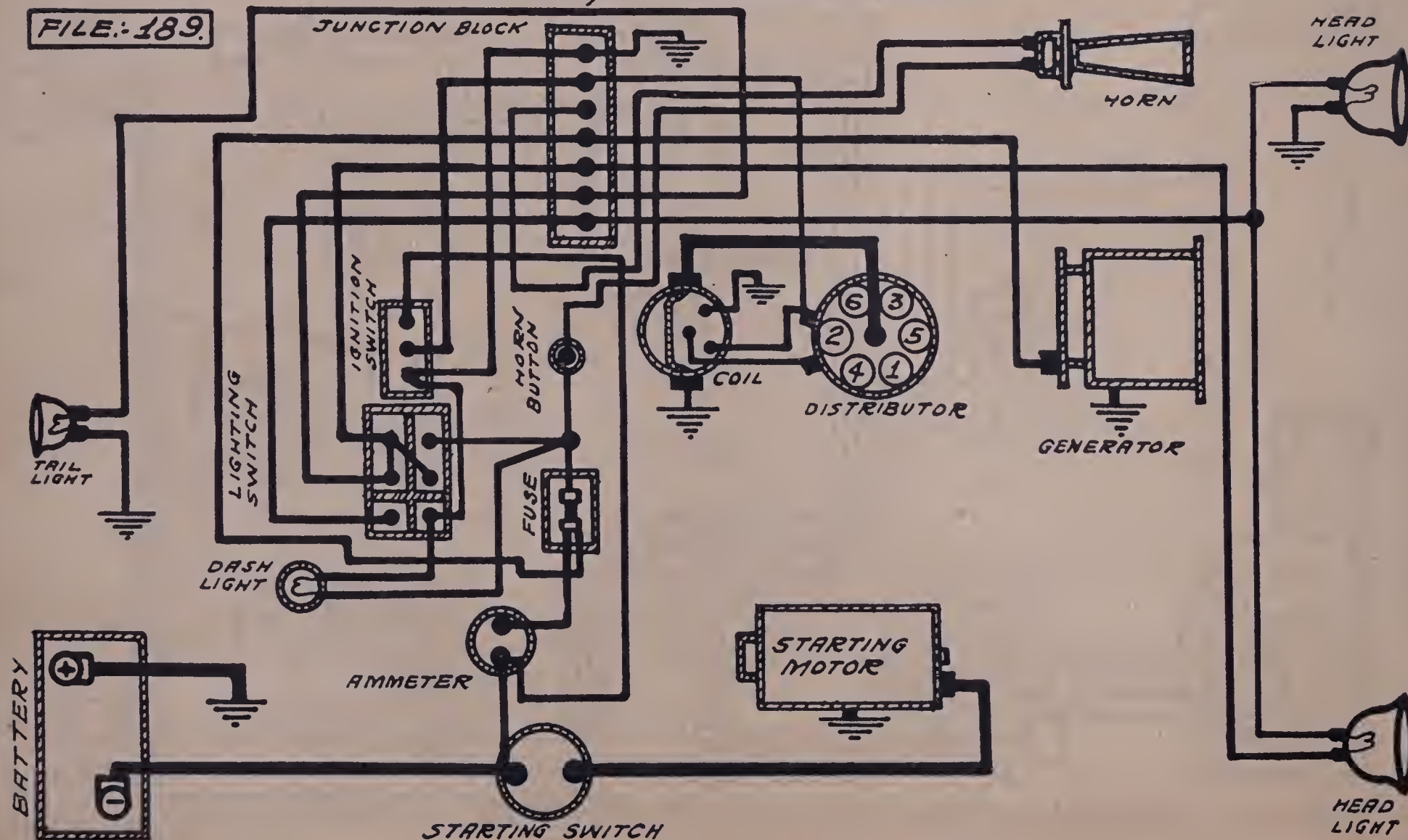


MITCHELL

1917-1918-1919.

MODEL D-40.

6-VOLT, SPLITDORF SYSTEM.



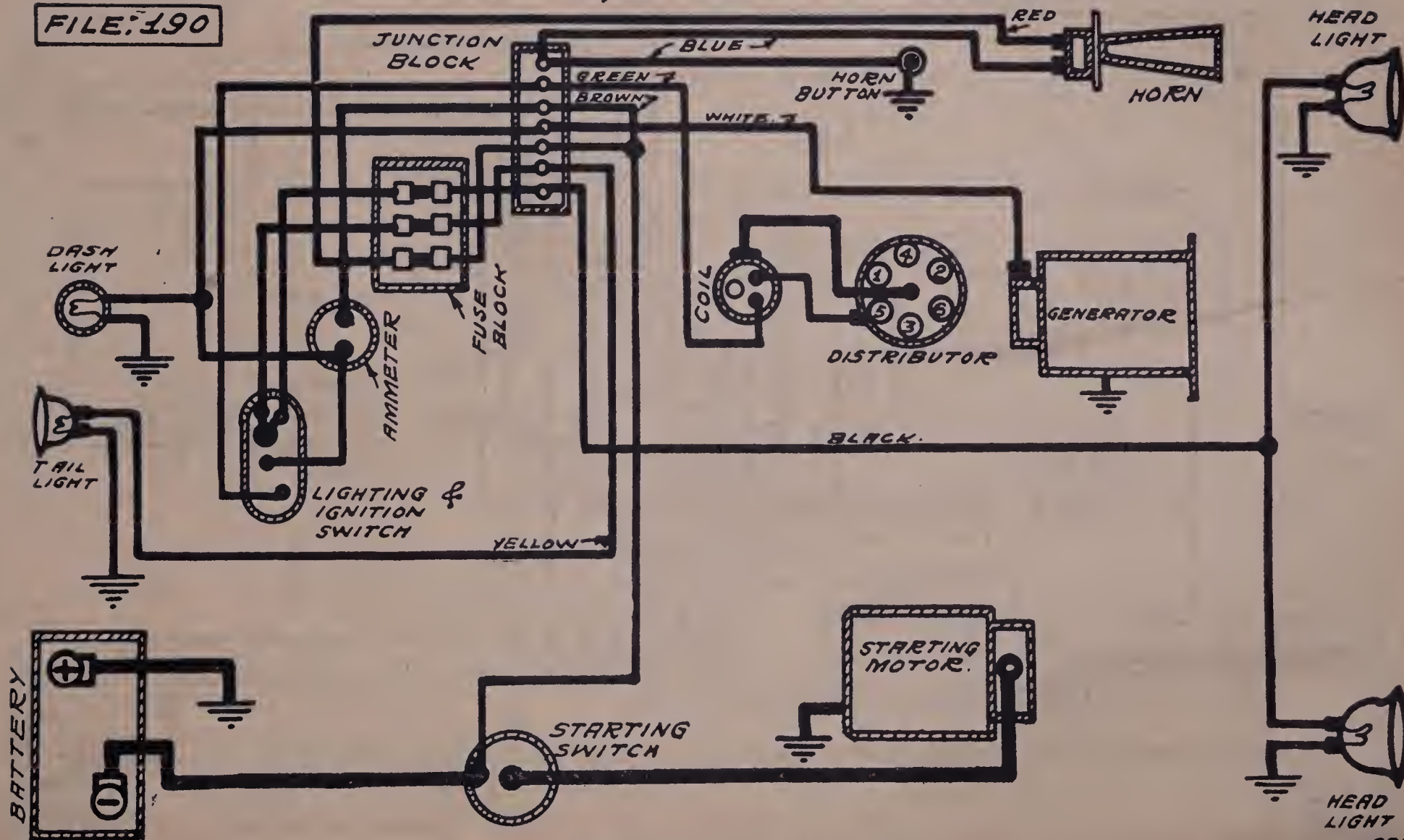
MITCHELL

1919-1920

MODEL - E.

6-VOLT, SPLIT DORF SYSTEM.

FILE 190



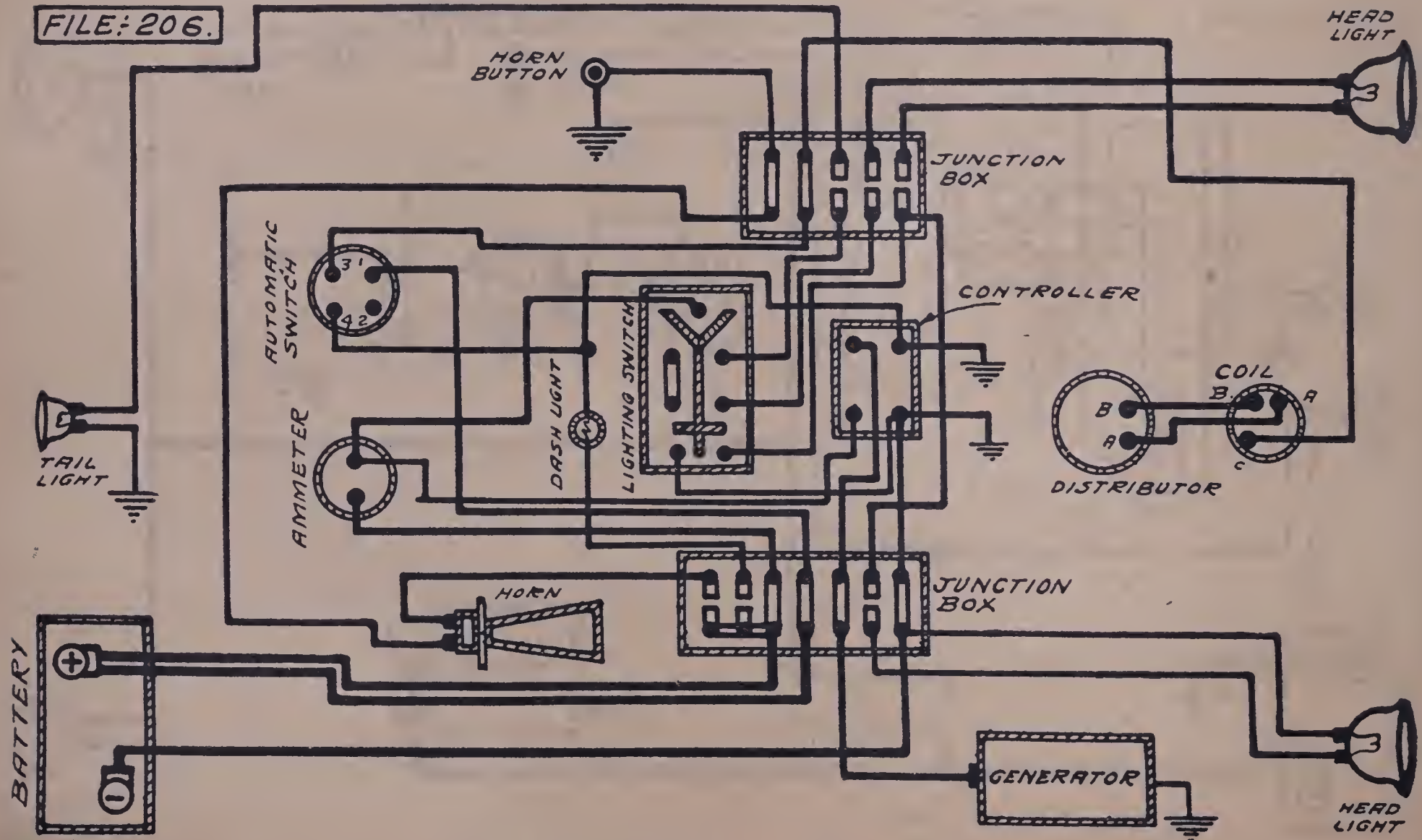
MOLINE-KNIGHT

1912-1913-1914

MODEL M-K 40.

6-VOLT, WARD-LEONARD LIGHTING SYSTEM.

FILE: 206.



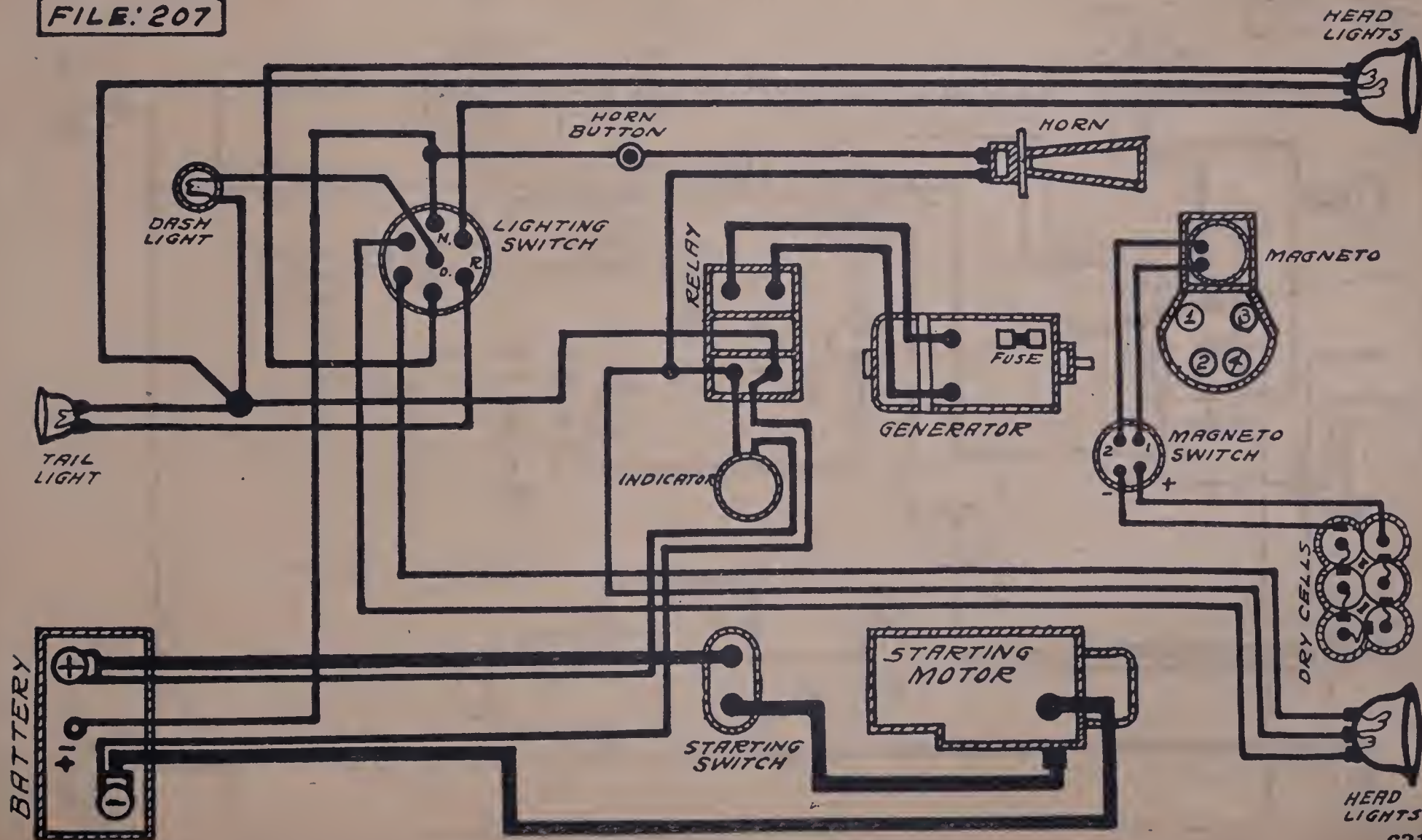
MOLINE-KNIGHT

1914-1915.

MODEL M-K. 50.

12-VOLT, WAGNER SYSTEM.

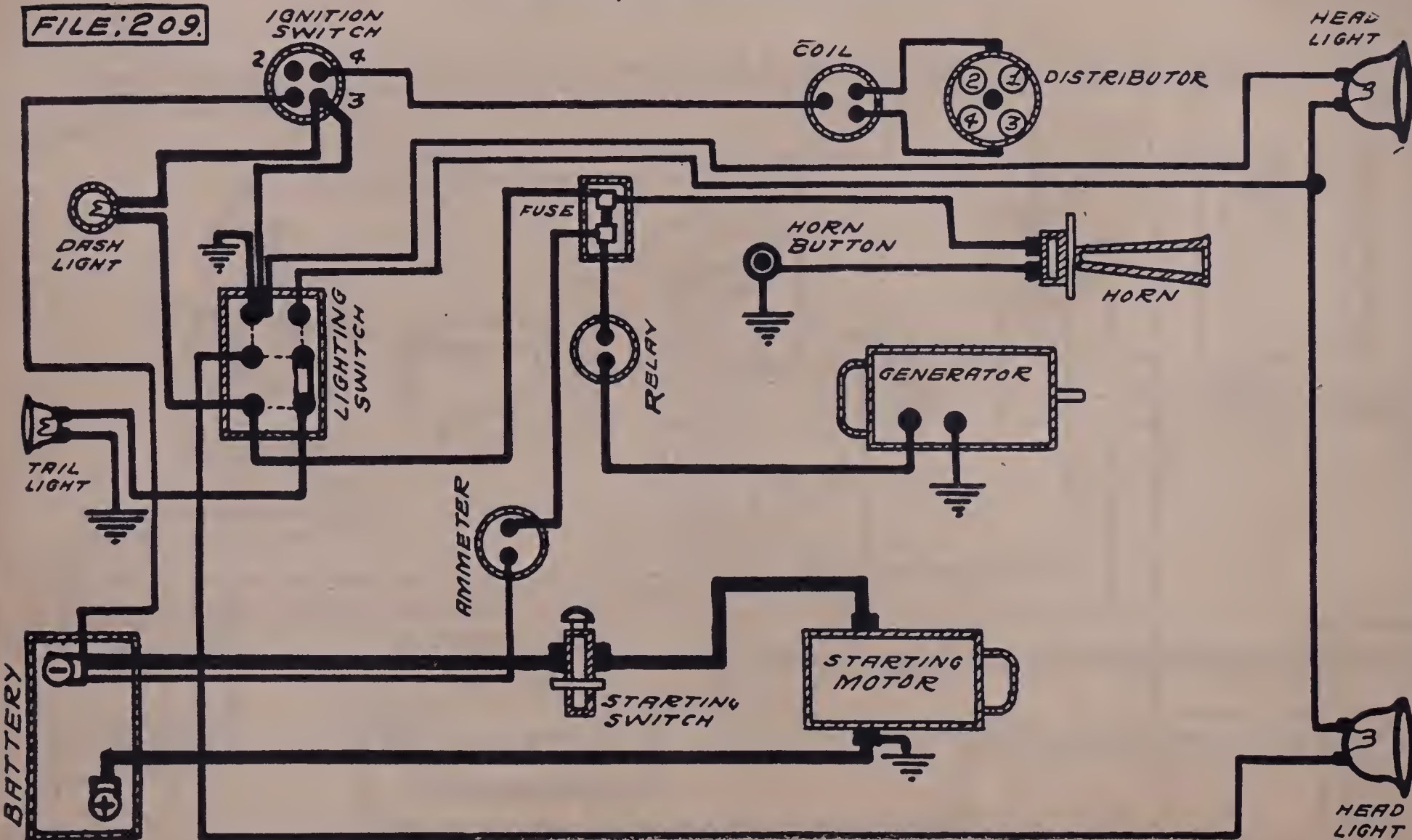
FILE: 207



MOLINE-KNIGHT

1916-1917-1918 SERIES-2 MODEL M-K-40-50
6-VOLT, WAGNER SYSTEM.

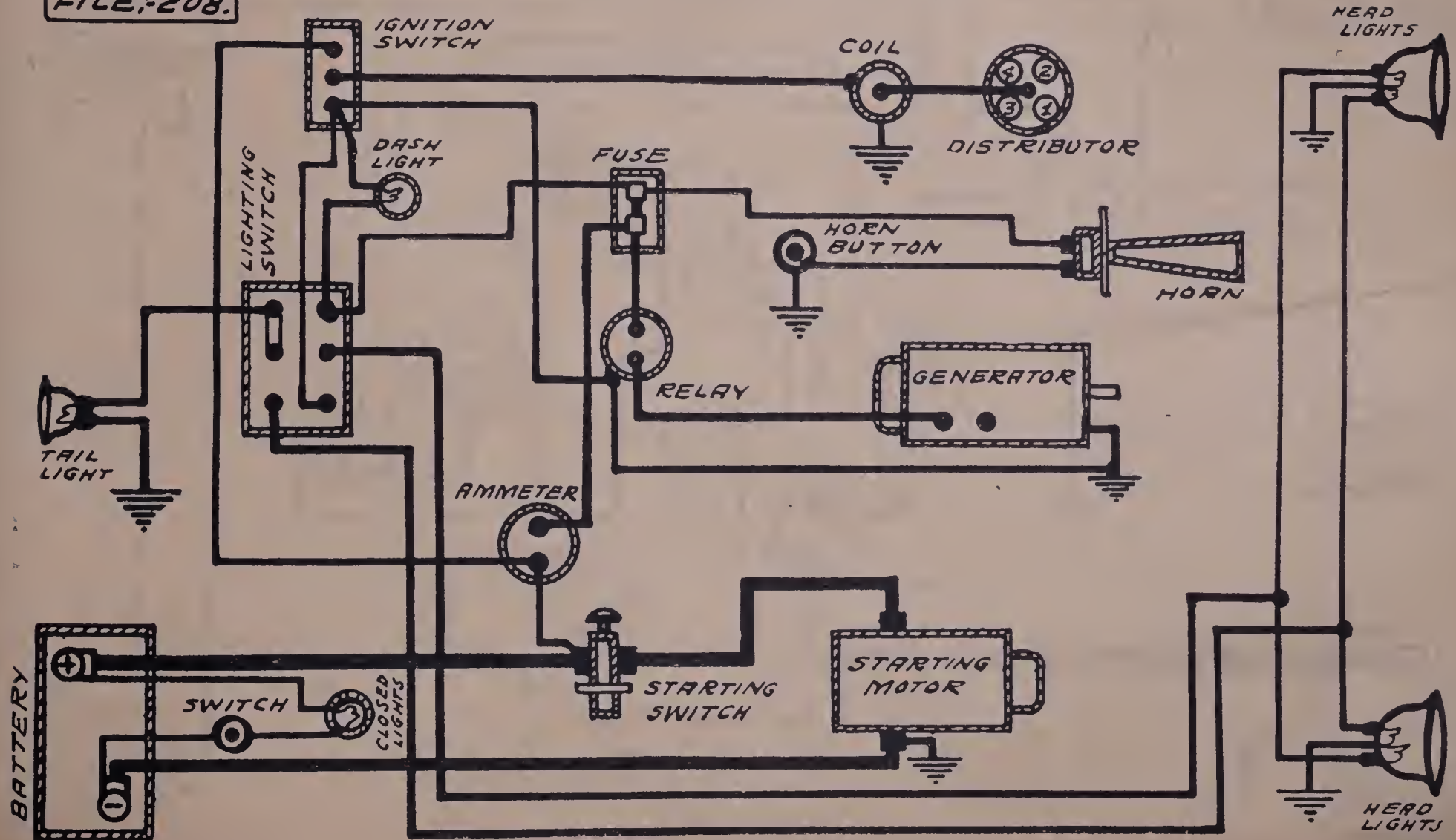
FILE: 209.



MOLINE-KNIGHT

1917-1918-1919 MODEL M-K40-SER.5, M-K50-G-L.
6-VOLT, WAGNER SYSTEM.

FILE:208.



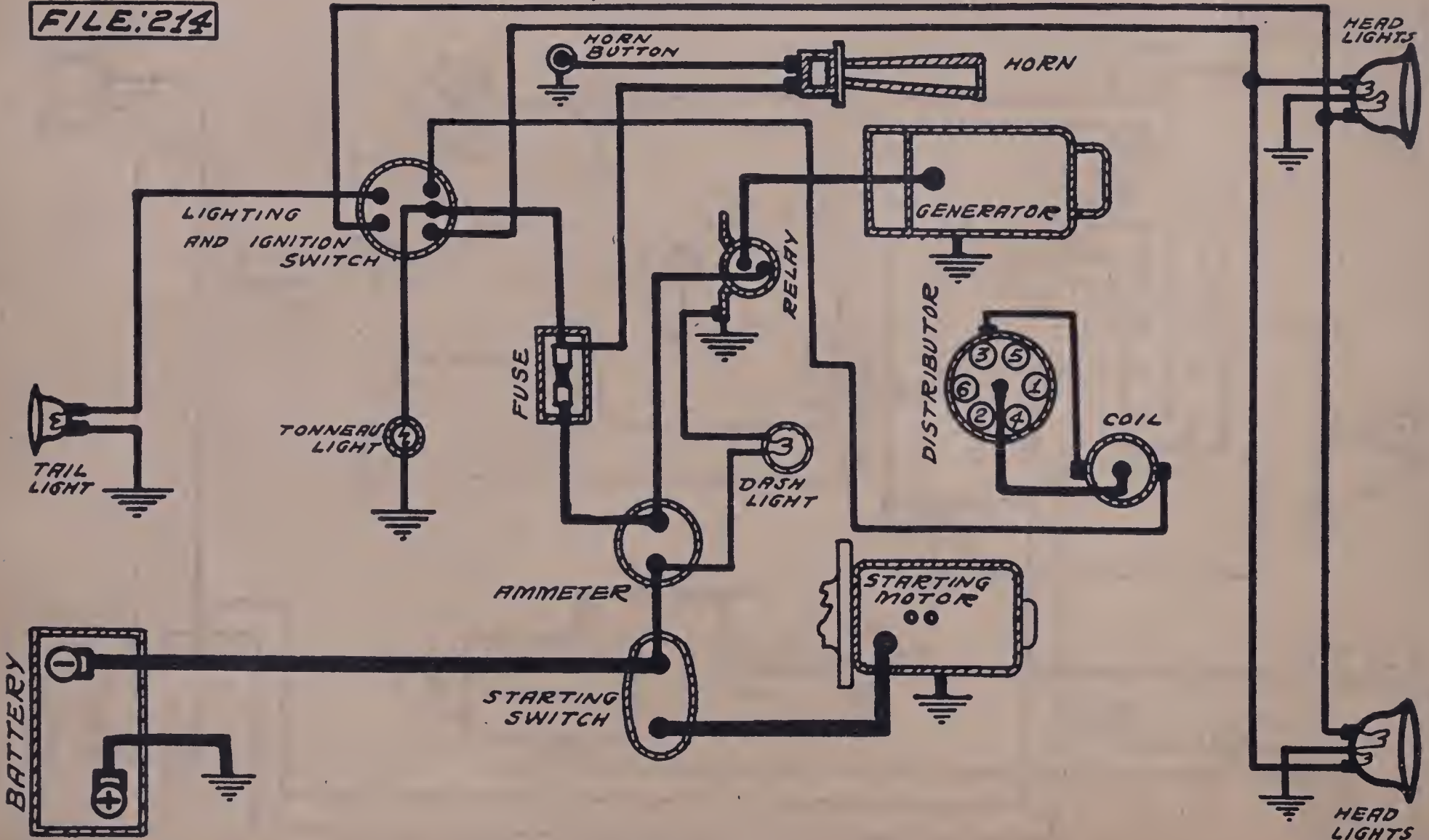
MOLINE-KNIGHT

1920

MODEL J, R.

6-VOLT, WAGNER SYSTEM.

FILE:214



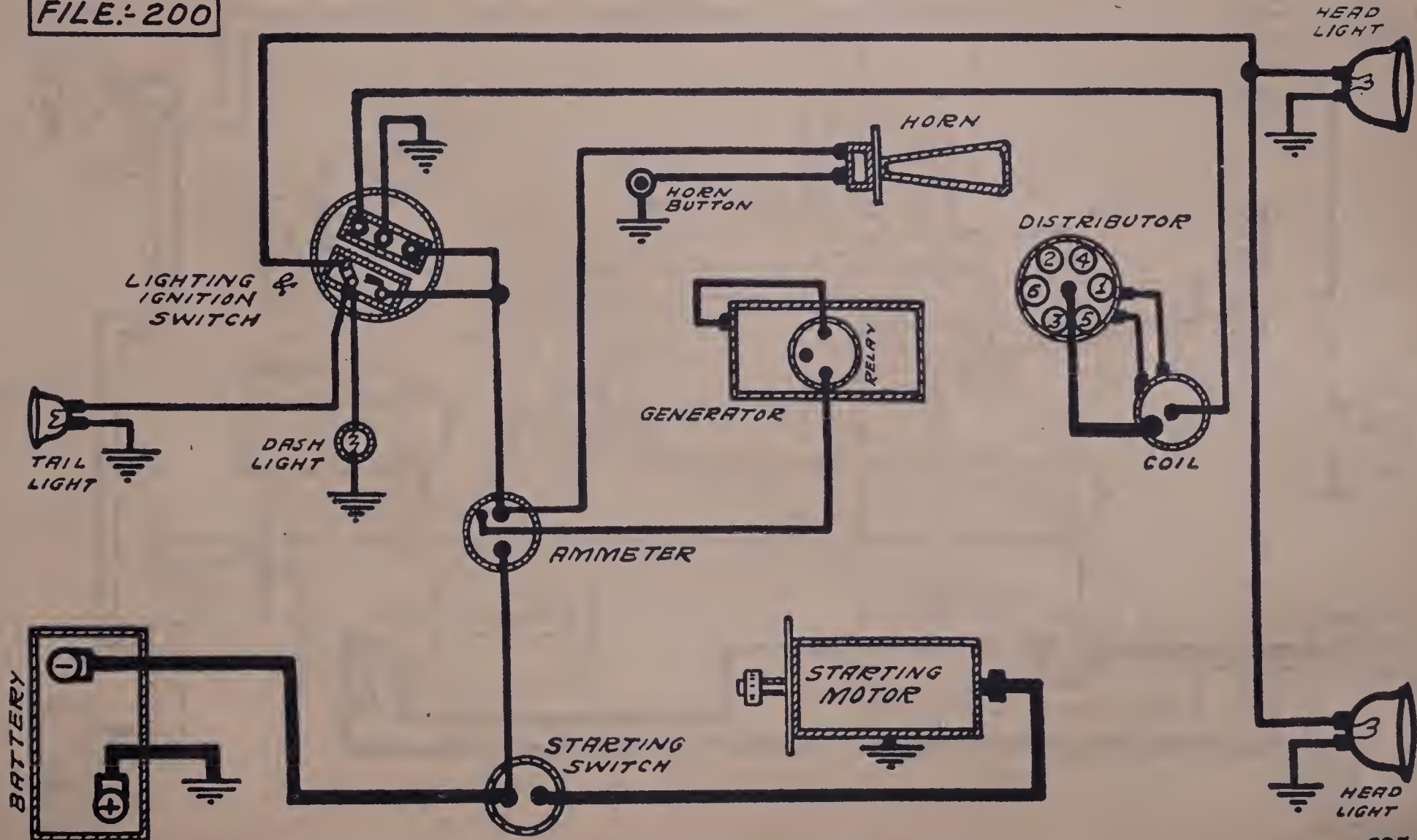
MONITOR

1917-1918.

MODEL-C, N.

6-VOLT-HIENZE SYSTEM.

FILE:-200

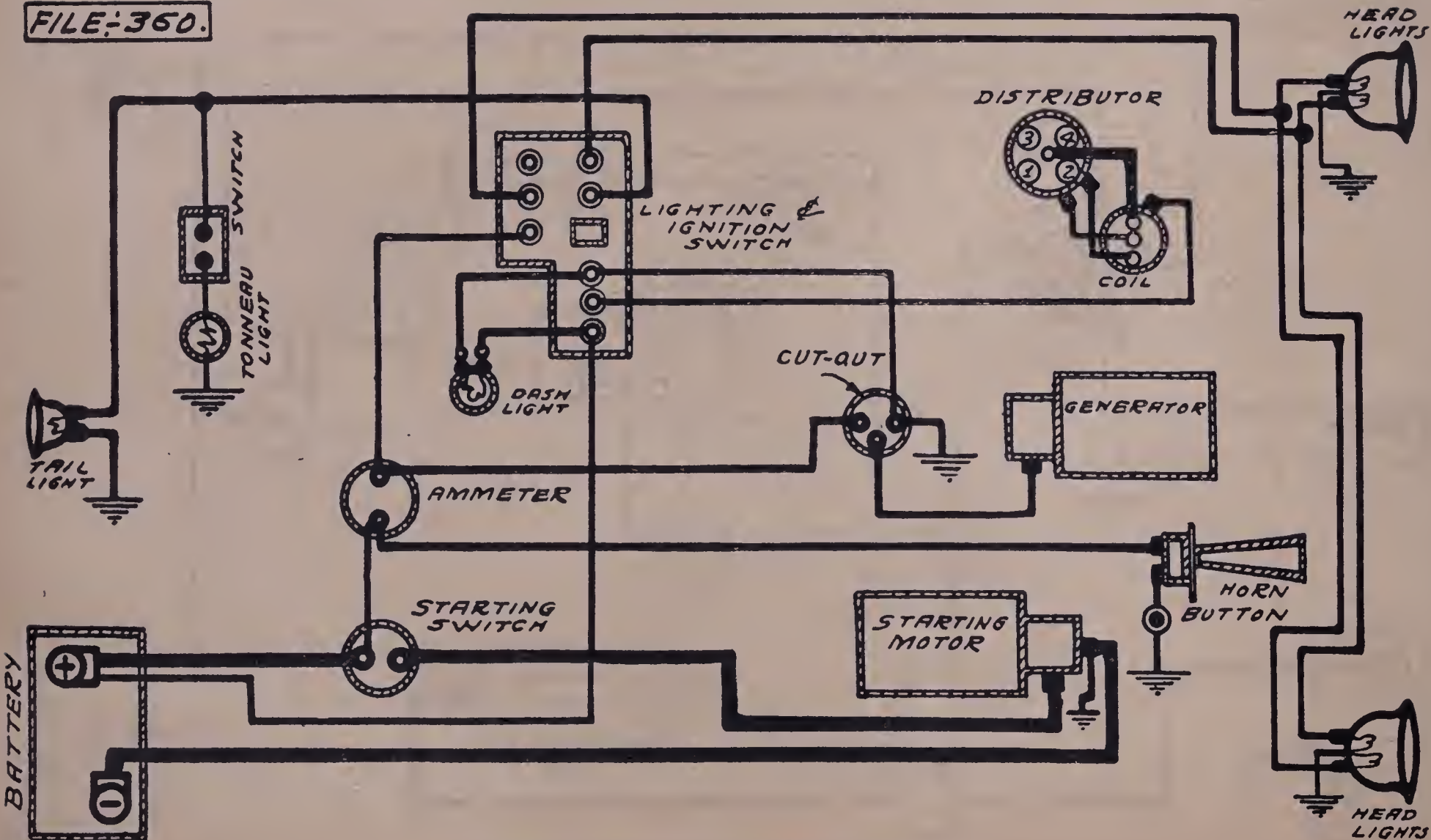


MONROE

1917-1918

MODEL - 45, 6-M.
6-VOLT, AUTOLITE SYSTEM.

FILE: 360.

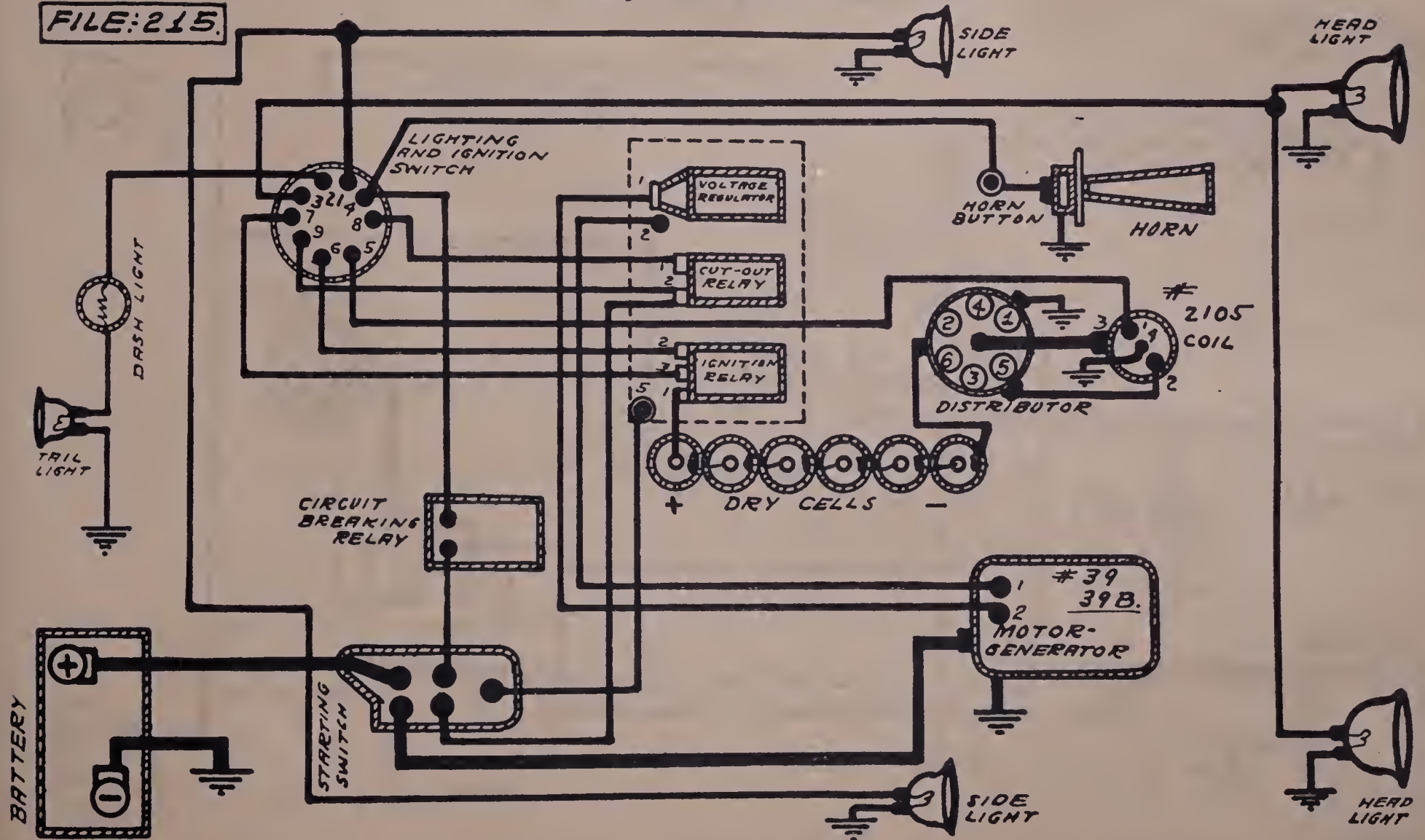


MOON

1914

MODELS 42, 6-50.
6-VOLT, -DELCO SYSTEM.

FILE:215.



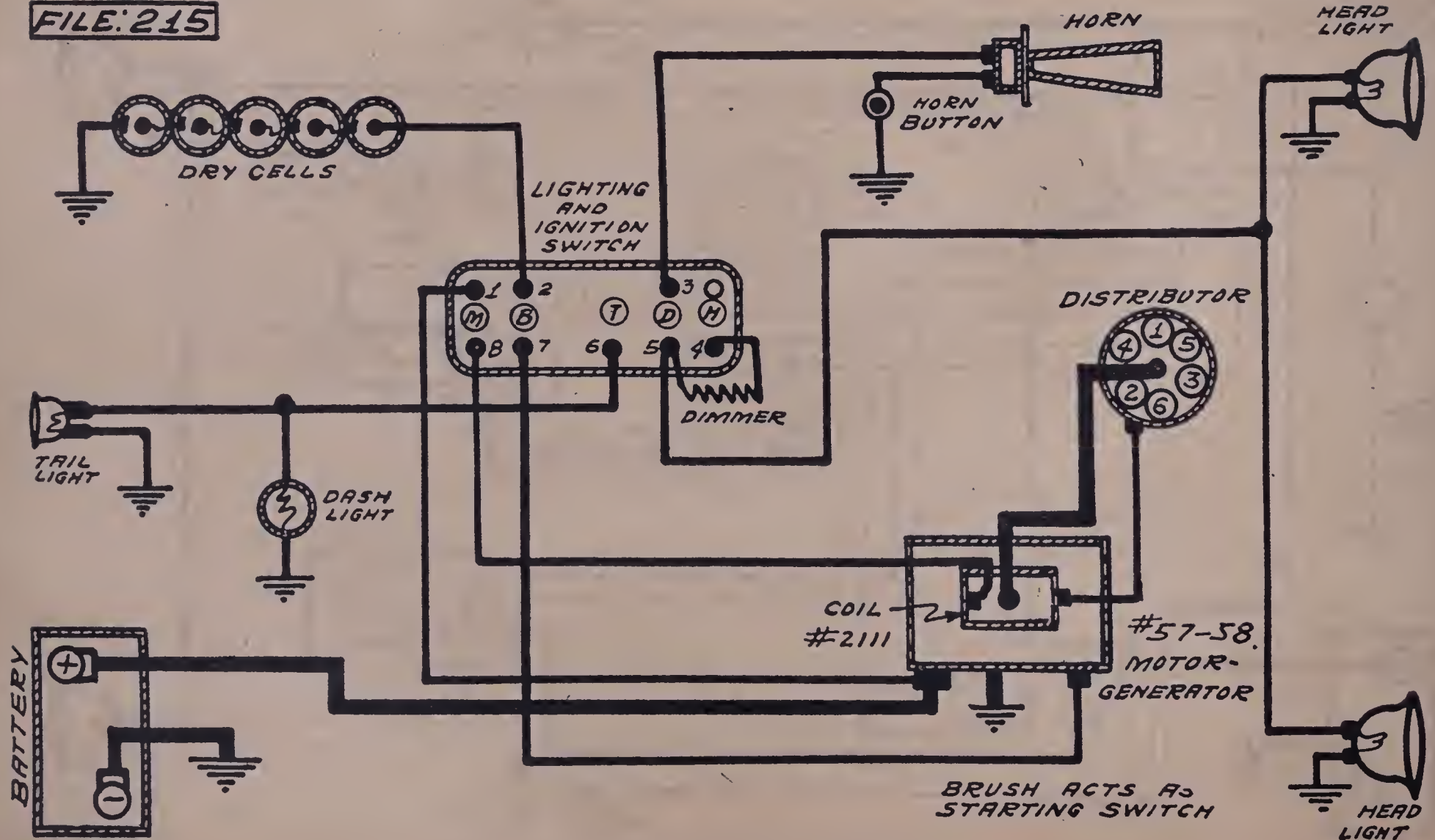
MOON

1915

MODEL 4-38, 6-40

6-VOLT, DELCO SYSTEM.

FILE: 215



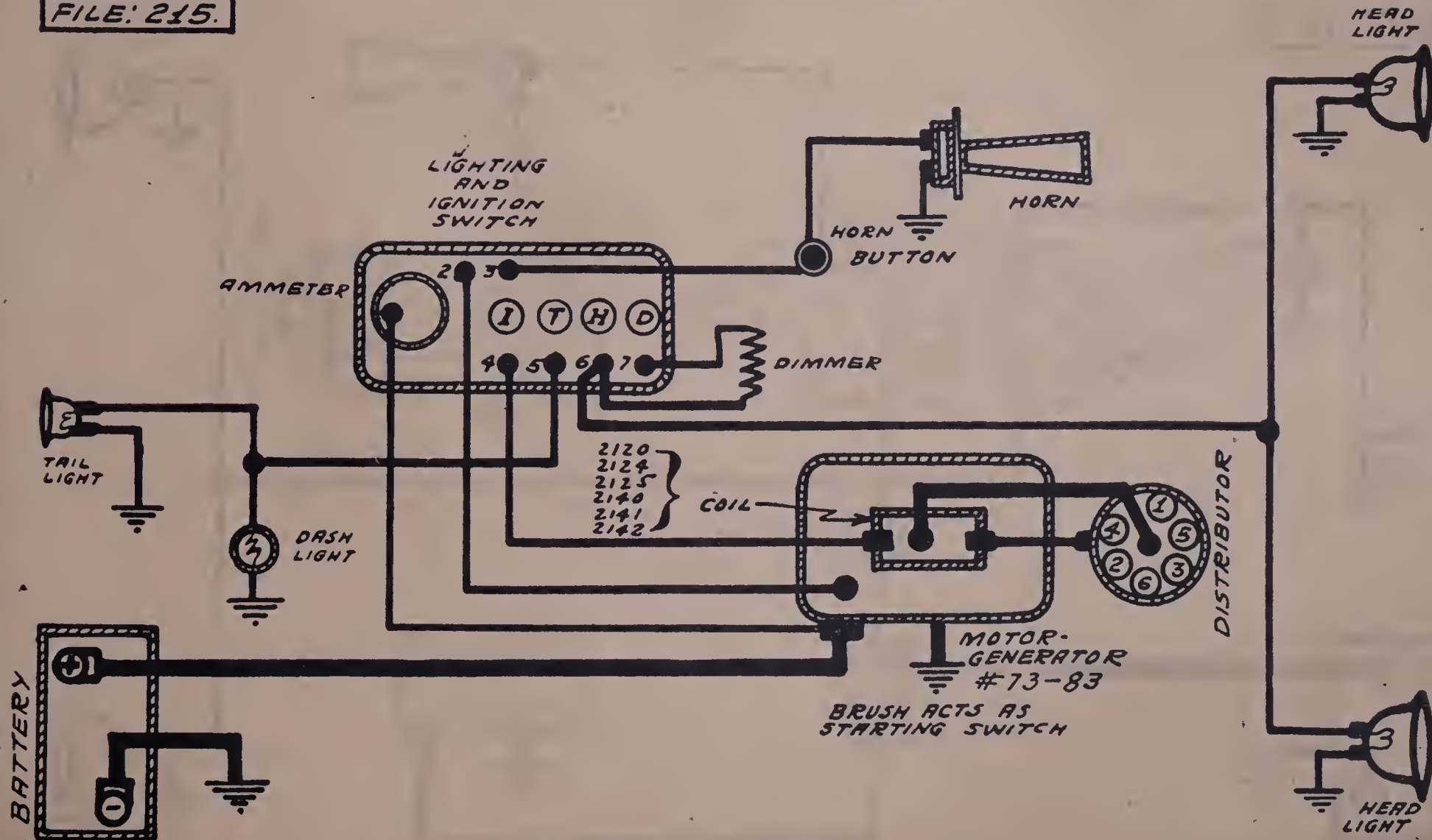
1916

MOON

MODELS 6-30, 6-40

6-VOLT, DELCO SYSTEM.

FILE: 215.



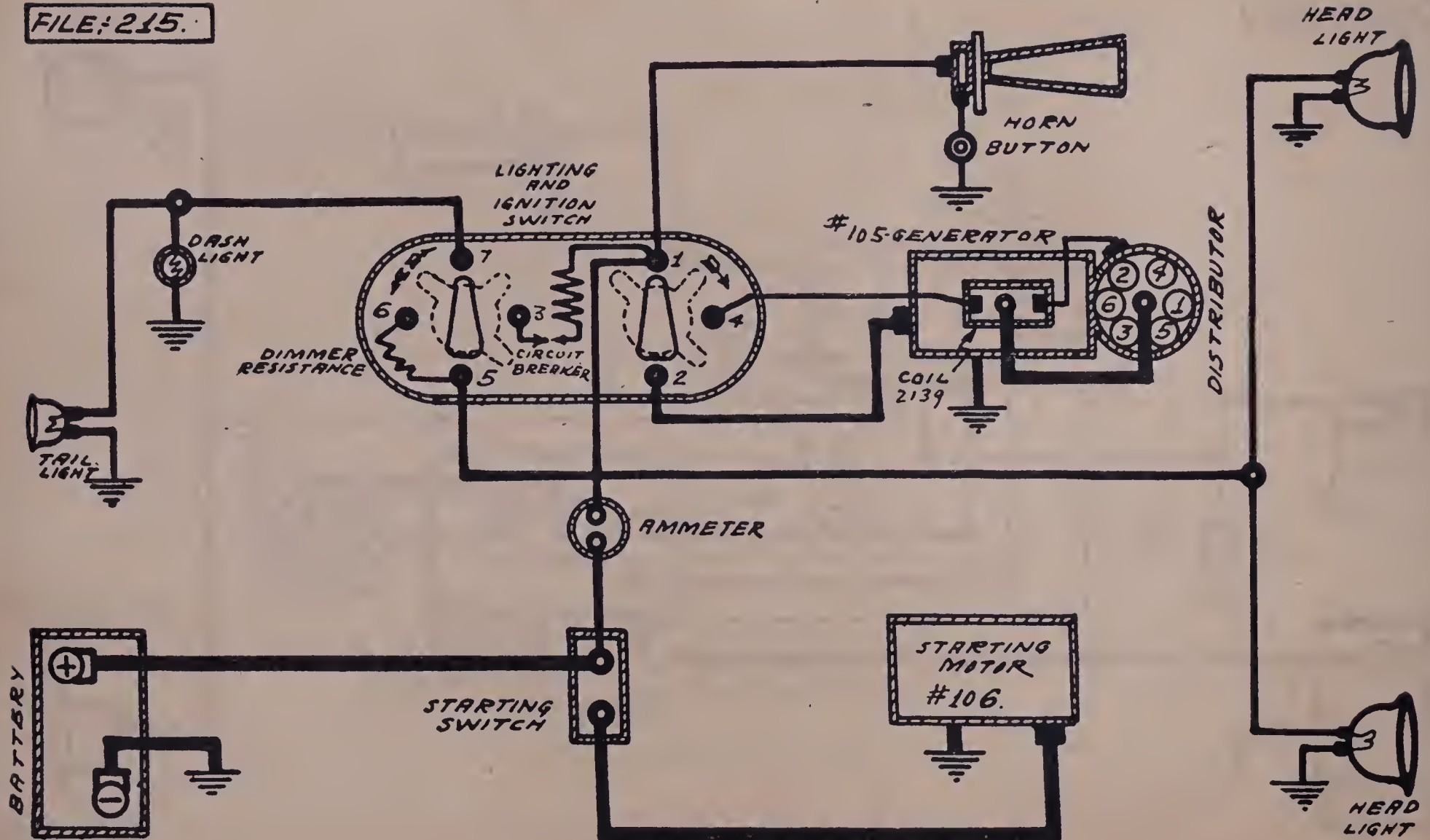
MOON

1917-

MODEL 6-43.

6-VOLT, -DELCO SYSTEM.

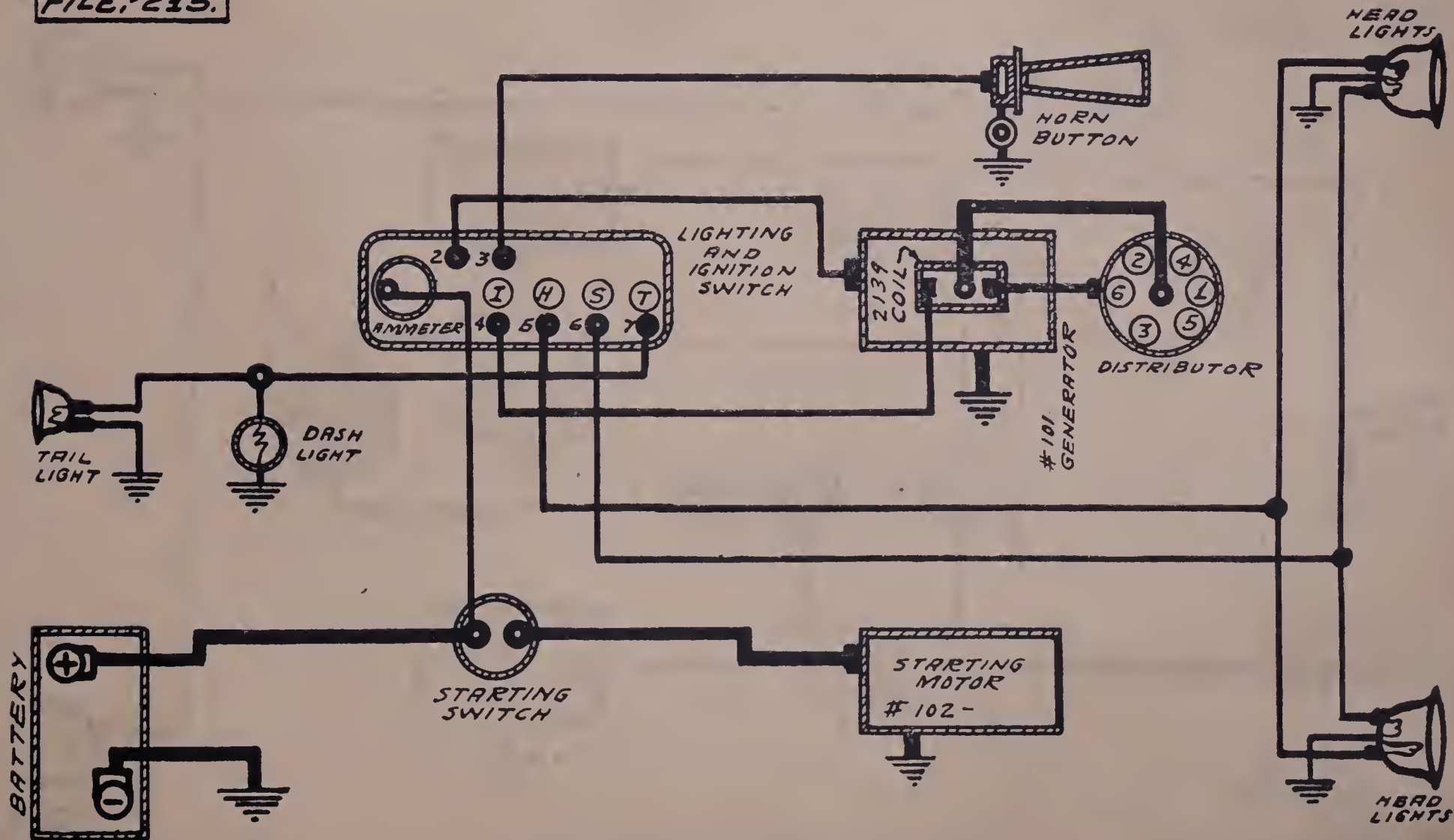
FILE: 215.



MOON
1917-1918-1919

MODEL 6-45, 6-66
6-VOLT, DELCO SYSTEM.

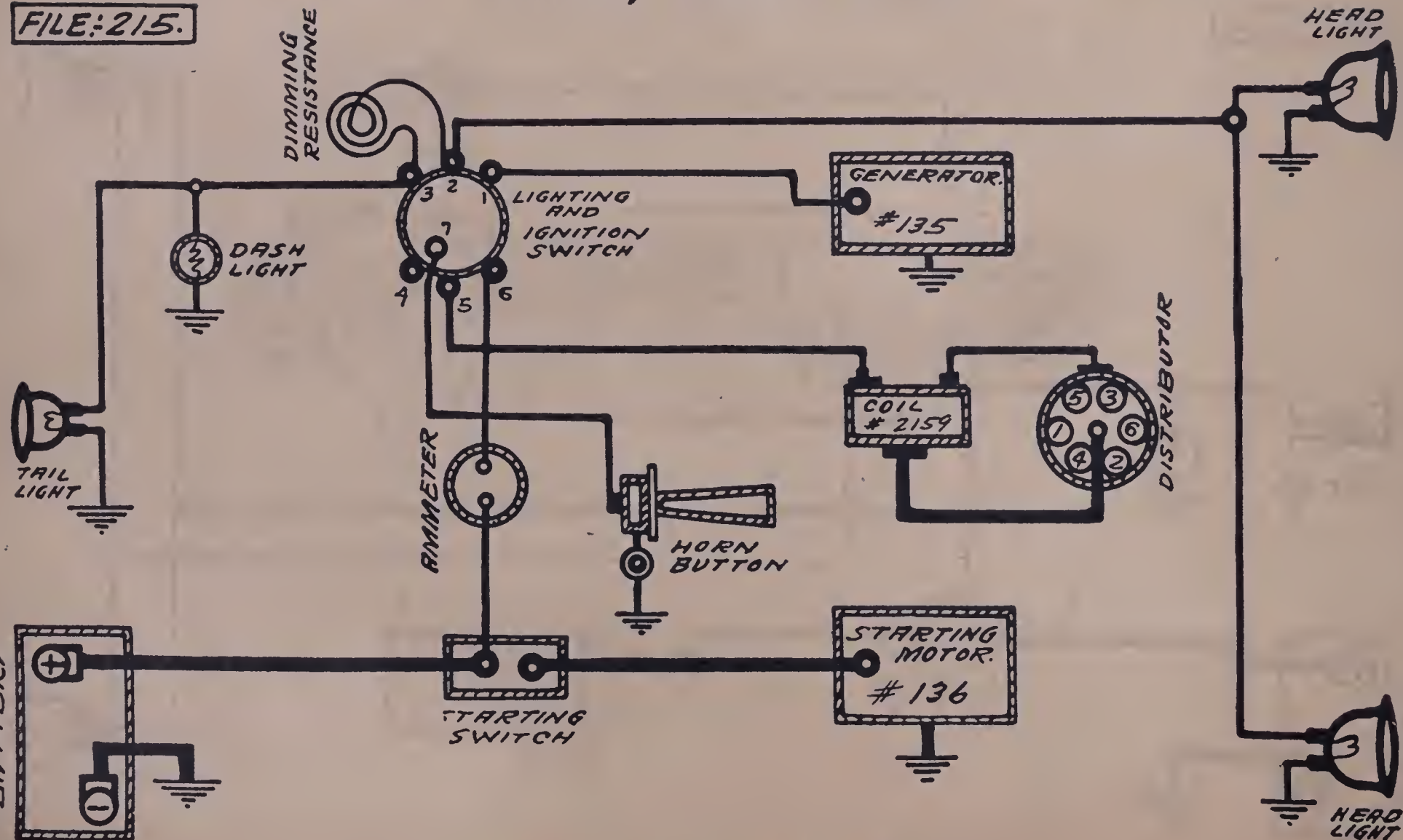
FILE: 215.



MOON

1920 MODEL USING 9-N CONTINENTAL ENGINE
6-VOLT, - DELCO SYSTEM.

FILE: 215.



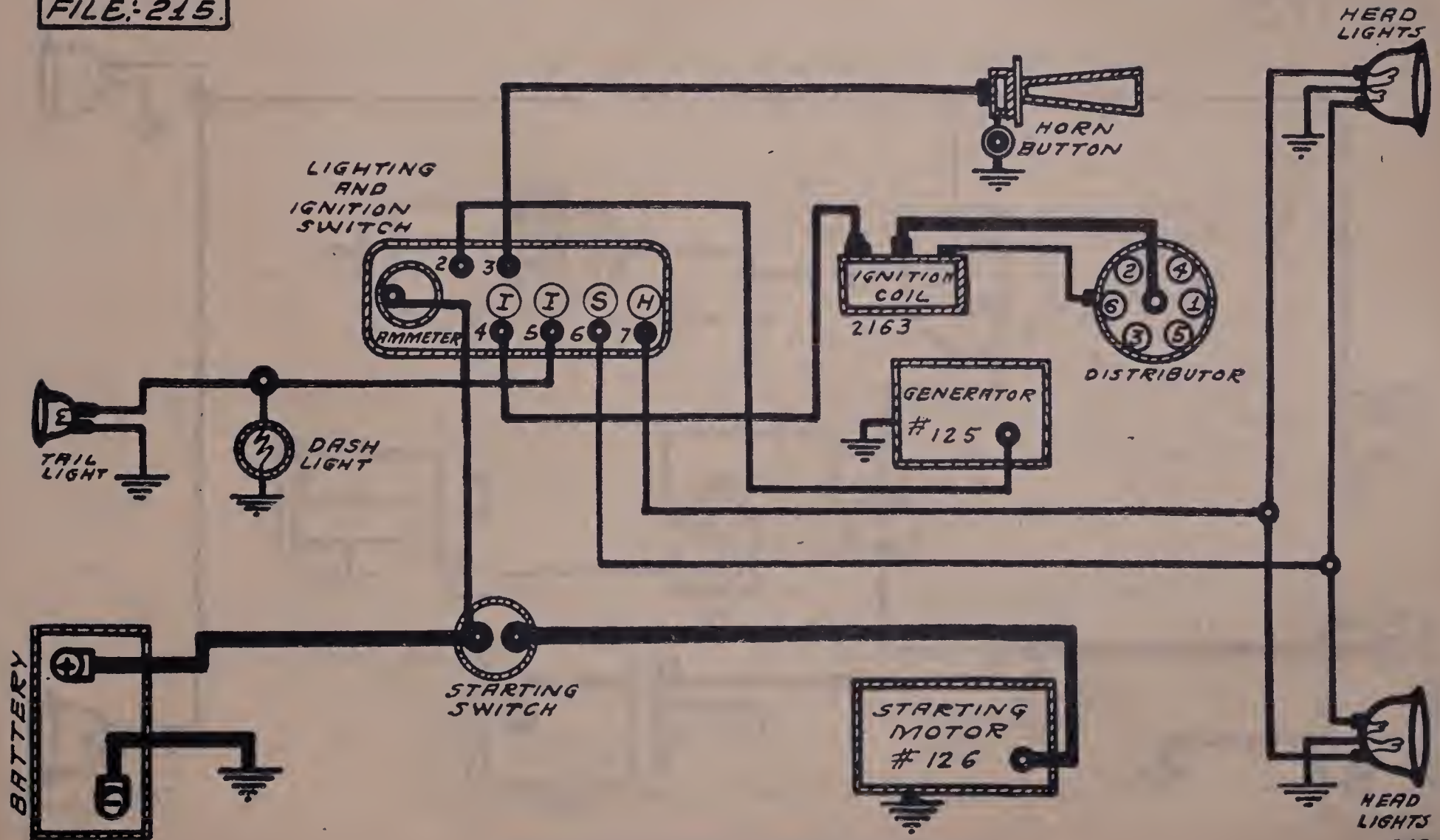
NASH

1918

MODELS 681, 682.

6-VOLT, -DELCO SYSTEM.

FILE: 215.



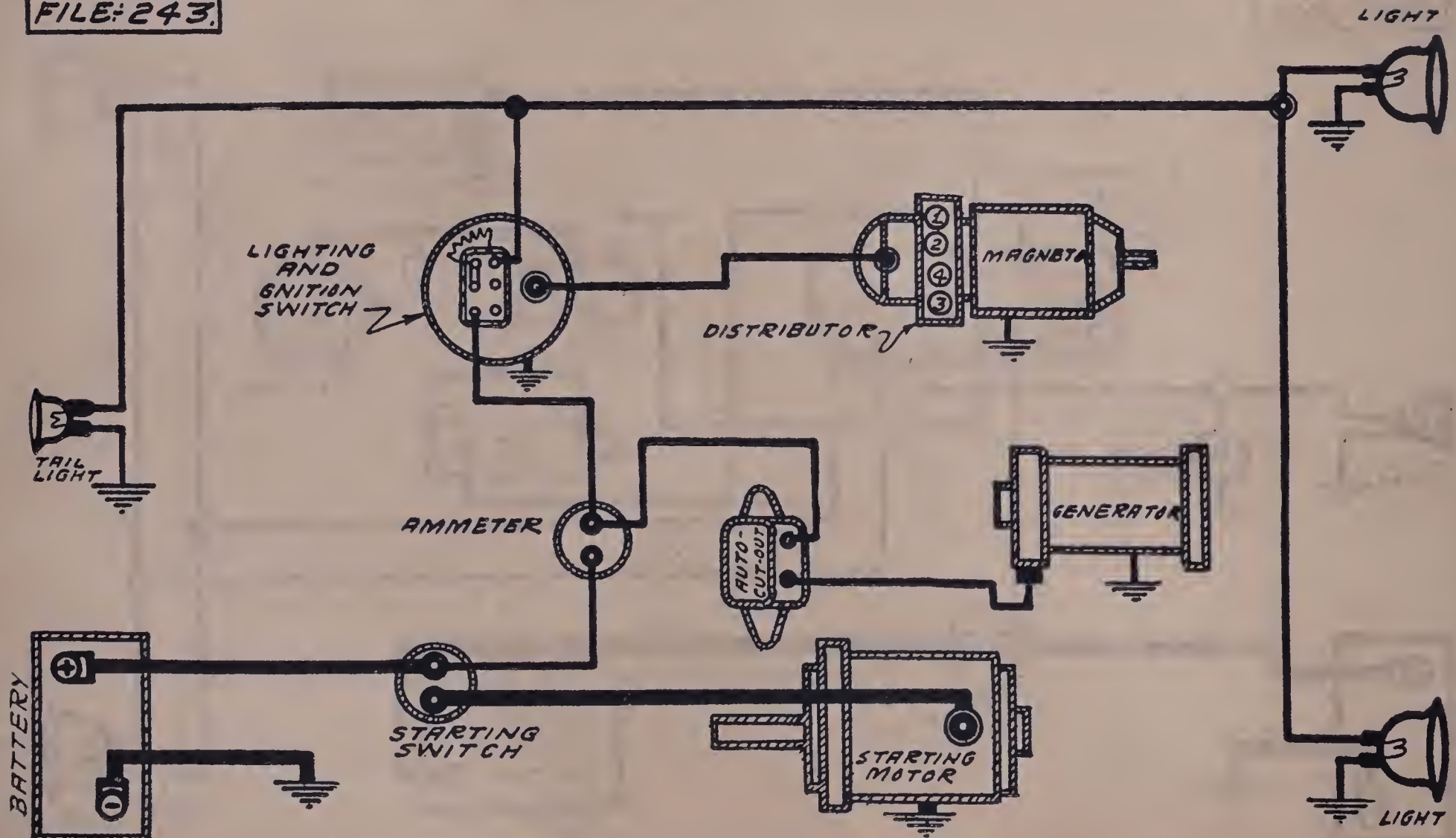
NASH TRUCK

1919

MODELS 2018, 3018

6-VOLT, - AUTOLITE SYSTEM.

FILE: 243.



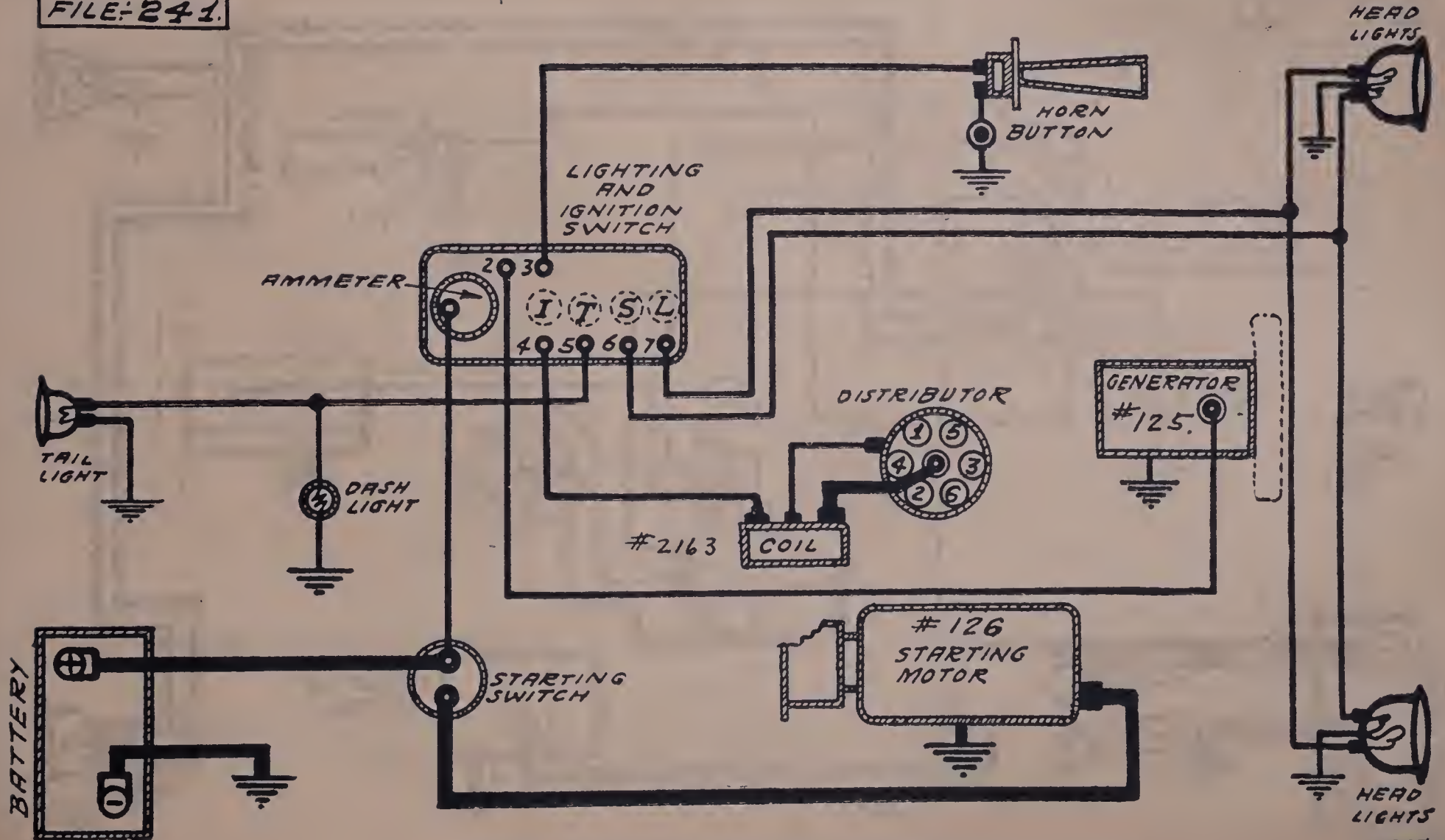
NASH

1919

MODELS-681,682,683,684,685,686,687

6-VOLT, DELCO SYSTEM.

FILE: 241.



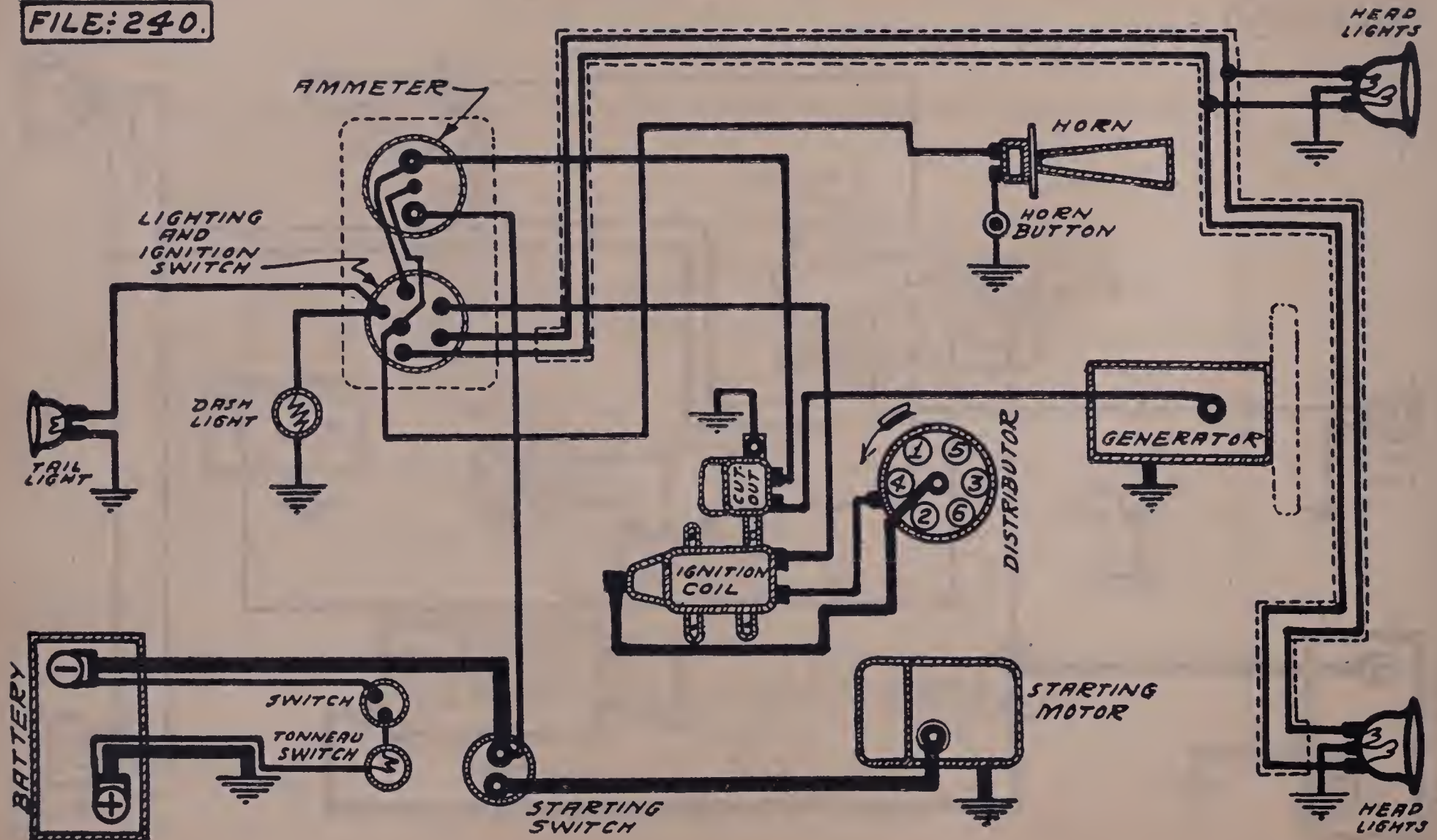
NASH

1919

MODELS-681, 682, 684, 685, 686, 687.

6-VOLT, WAGNER SYSTEM.

FILE: 240.



MODELS-681,682,684,685,686,687.
6-VOLT, WAGNER SYSTEM.

FILE: 239

Diagram illustrating the electrical system components and wiring for a vehicle, including:

- BATTERY
- TAIL LIGHT
- DASH LIGHT
- LIGHTING AND IGNITION SWITCH
- AMMETER
- HORN
- FUSE BLOCK
- HORN BUTTON
- GENERATOR
- DISTRIBUTOR
- IGNITION COIL
- CUT-OUT
- STARTING MOTOR
- STARTING SWITCH
- HEAD LIGHTS

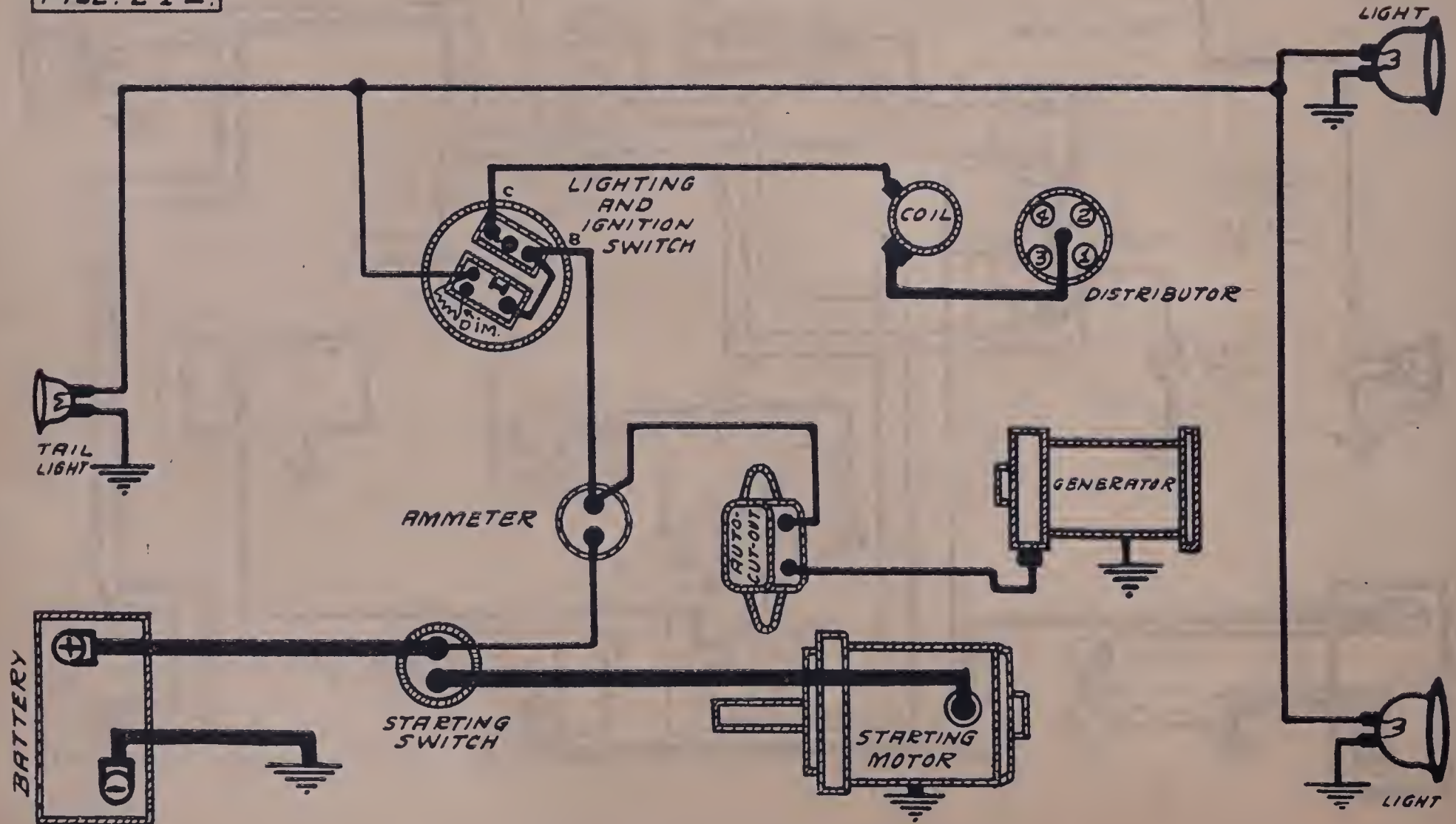
NASH TRUCK

1917-1918

MODELS; 2018, 3018

6-VOLT, AUTOLITE SYSTEM.

FILE: 242.



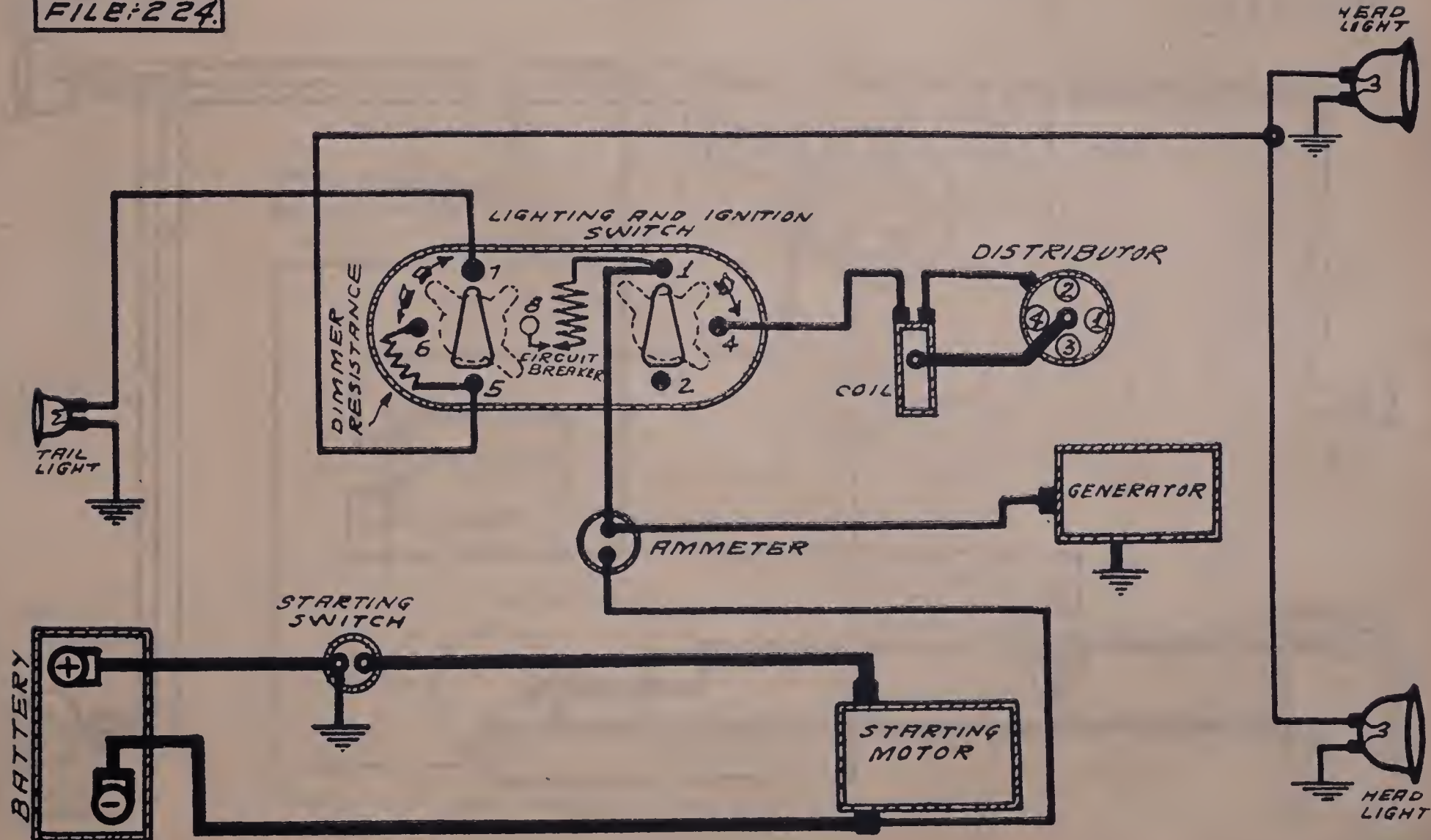
NASH TRUCK

1918

MODEL 2017

6-VOLT, WAGNER SYSTEM.

FILE: 224.

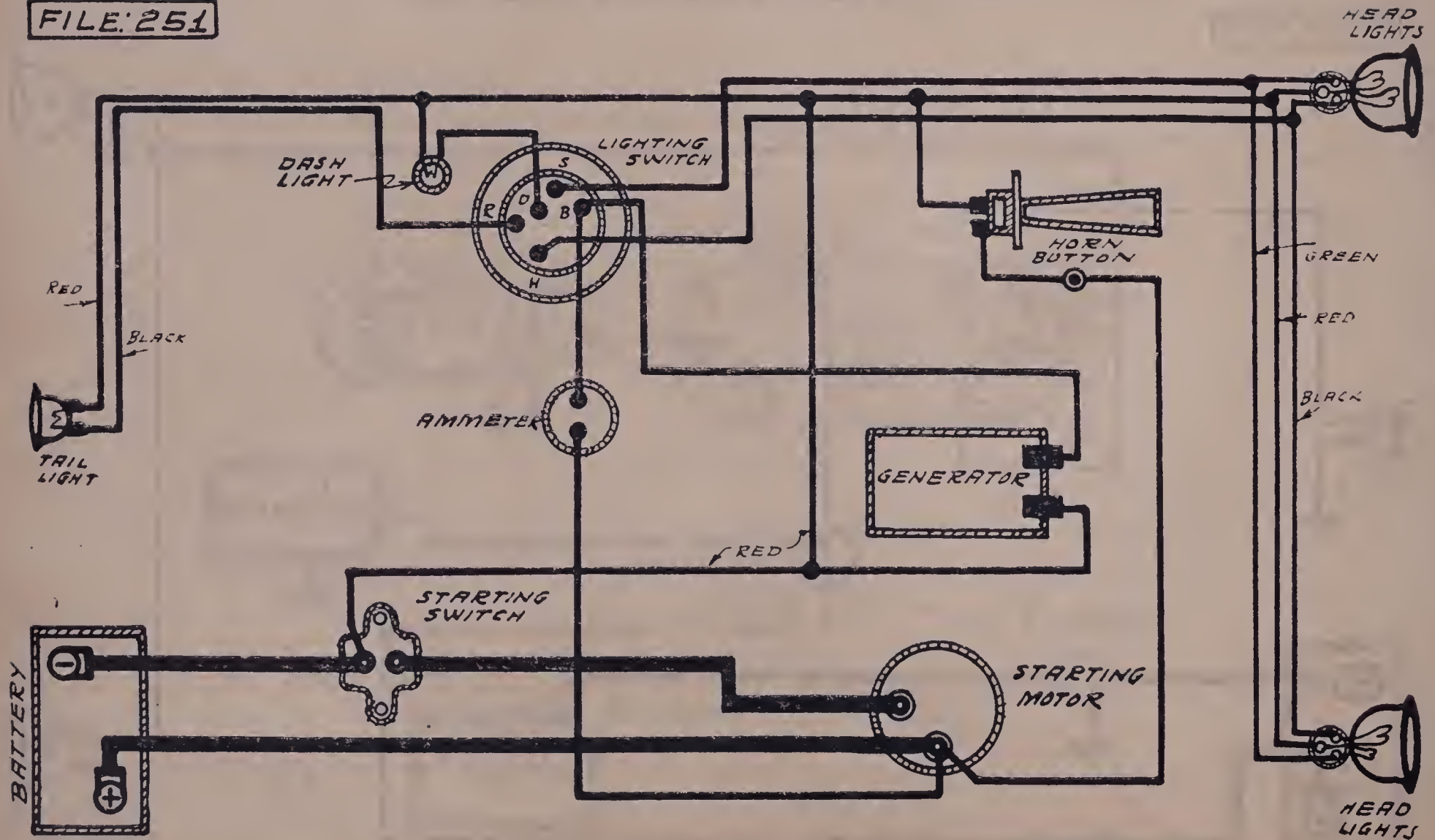


NATIONAL

HIGHWAY-SIX, SERIES-AC.
6-VOLT, WESTINGHOUSE SYSTEM.

1916

FILE: 251



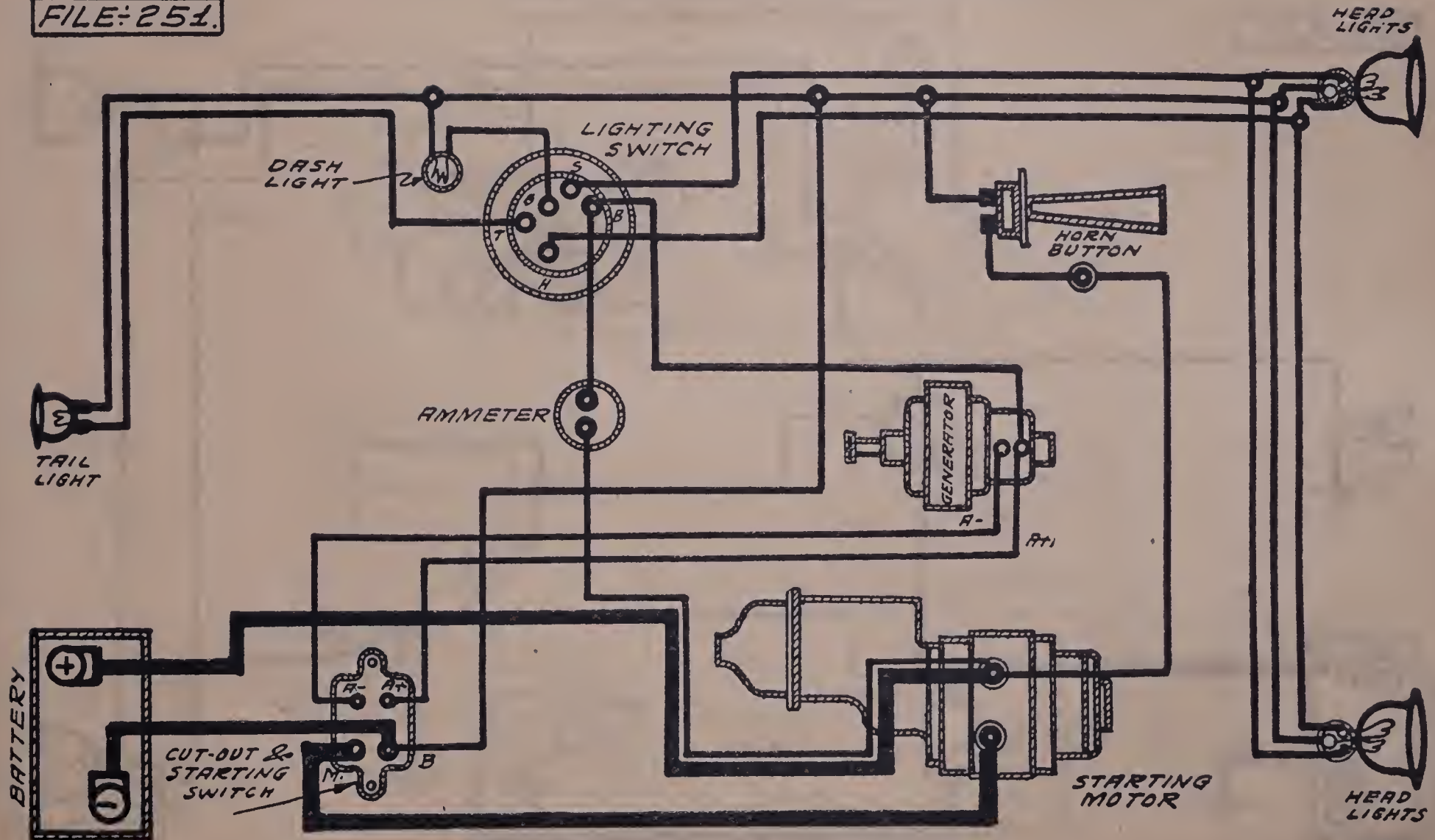
NATIONAL

1916

HIGHWAY-TWELVE, SERIES-AD.

6-VOLT, WESTINGHOUSE SYSTEM.

FILE: 251.



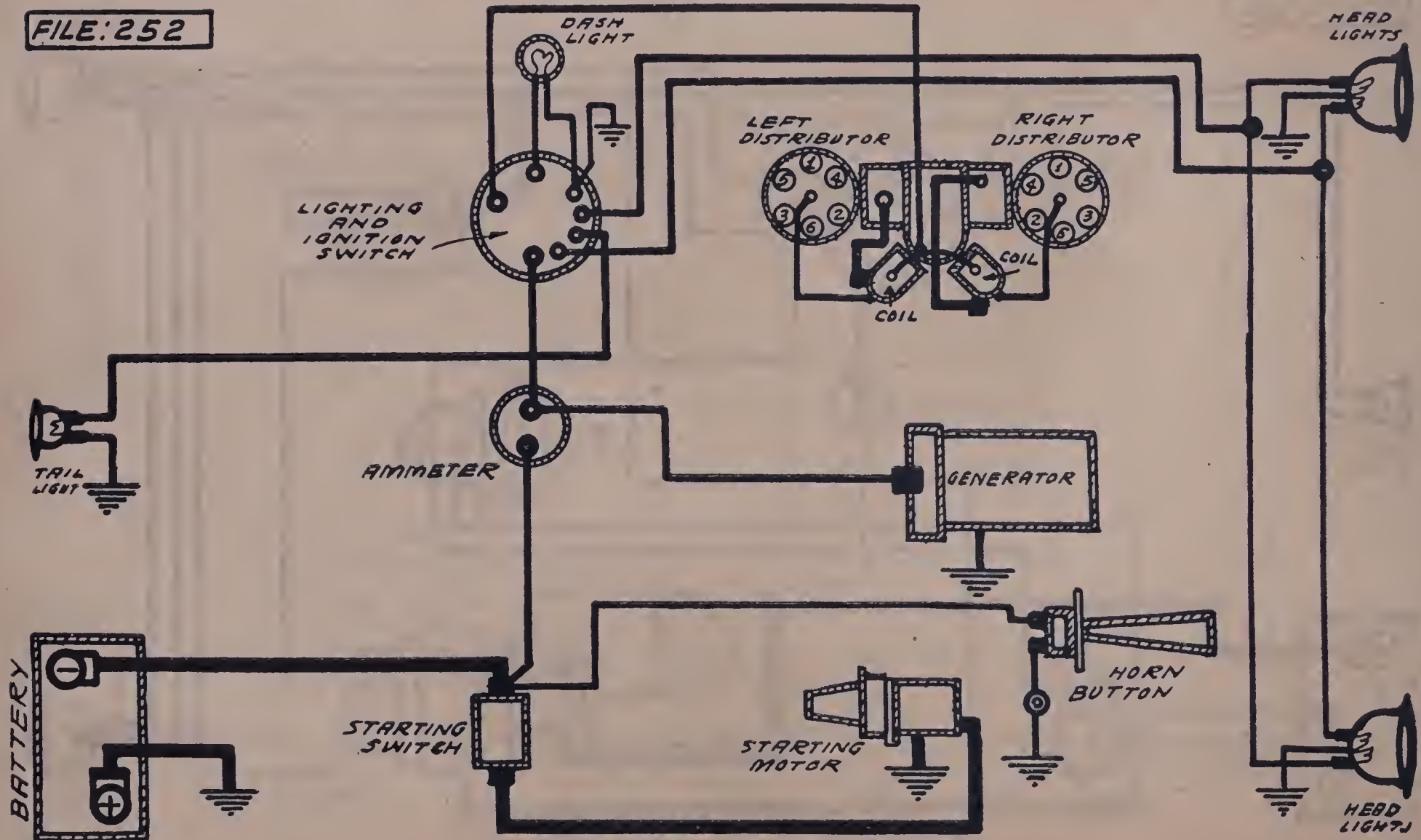
NATIONAL

1917-1918.

HIGHWAY-TWELVE, SERIES AK, AM.

6-VOLT, - BIJUR SYSTEM.

FILE: 252



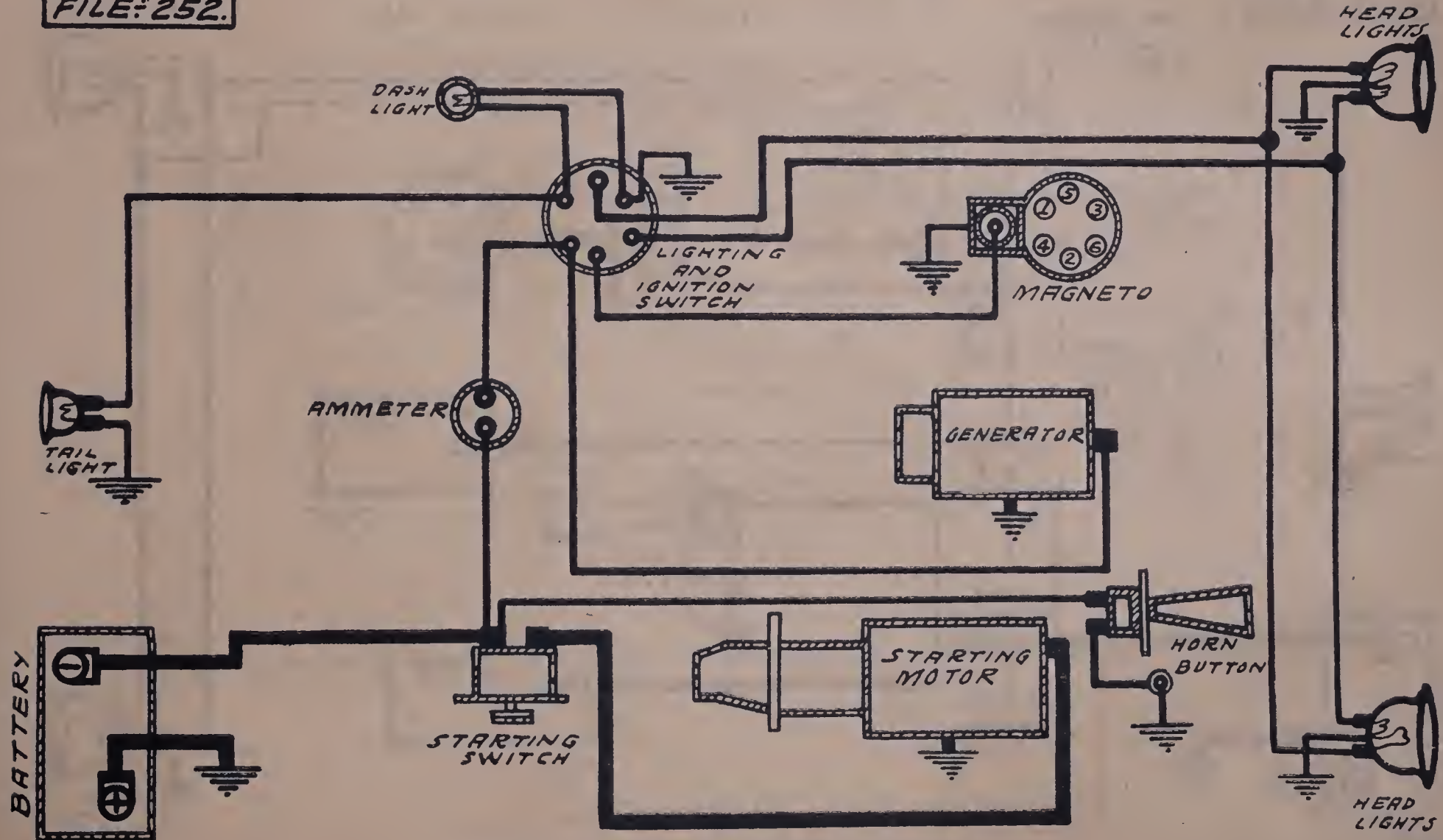
NATIONAL

1917-1918

HIGHWAY-SIX, SERIES AF.

6-VOLT, -WESTINGHOUSE SYSTEM.

FILE: 252.



NATIONAL

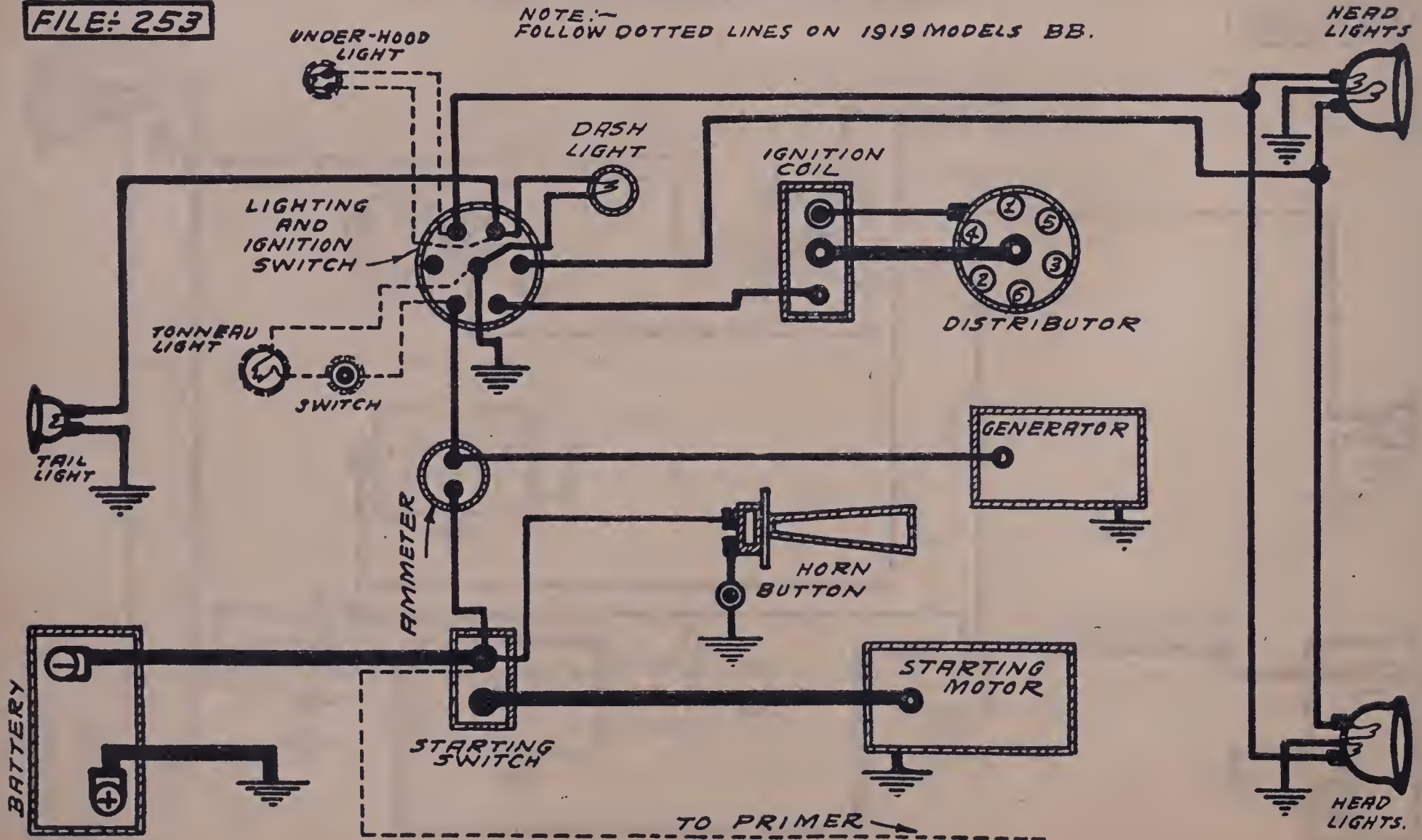
1918-MODEL AL.

1919. MODEL-BB.

6-VOLT,-WESTINGHOUSE SYSTEM.

FILE: 253

NOTE:—
FOLLOW DOTTED LINES ON 1919 MODELS BB.



NATIONAL

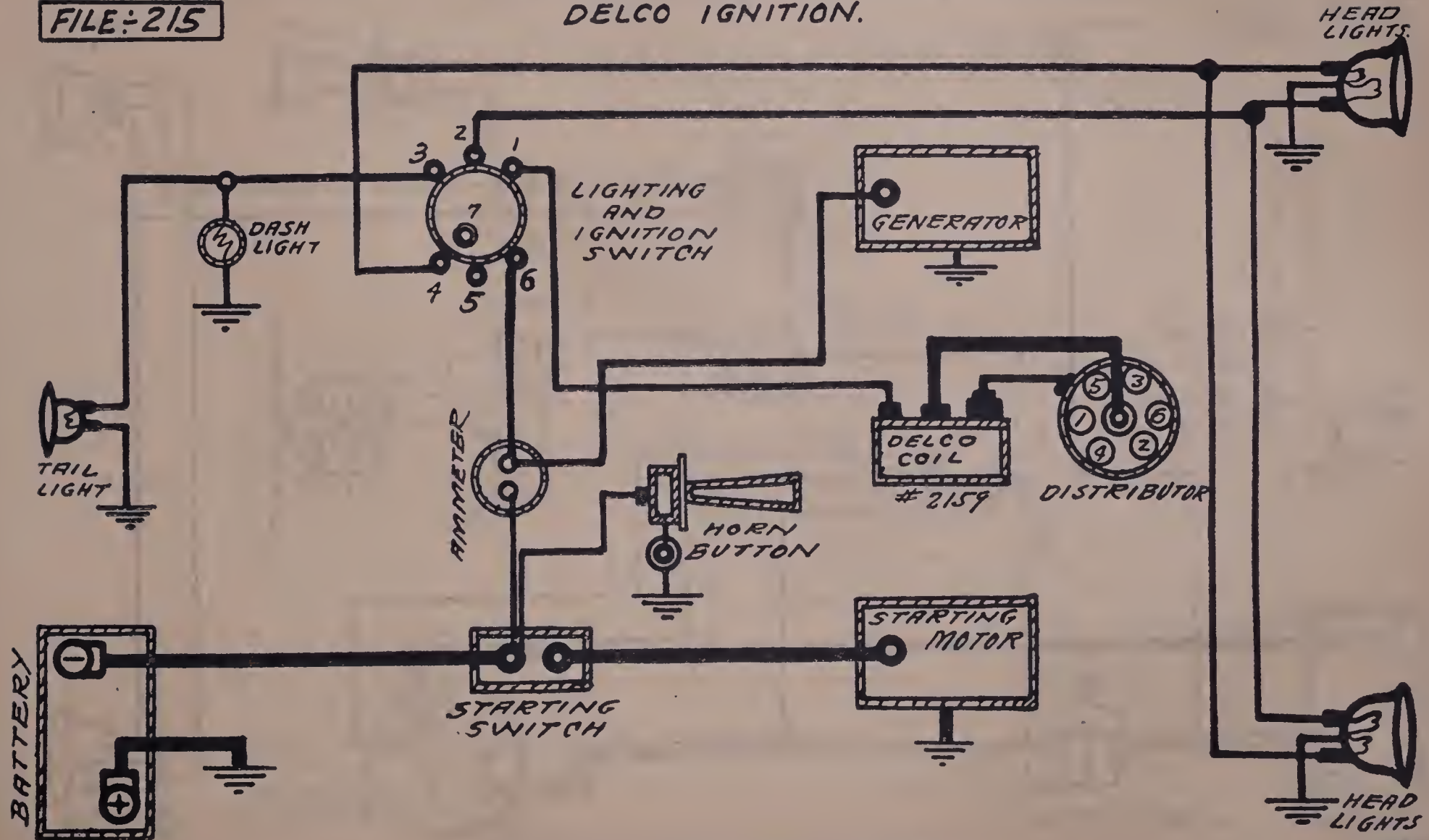
1919-1920.

SERIES BB & AL.

6-VOLT, -WESTINGHOUSE SYSTEM.

DELCO IGNITION.

FILE:215

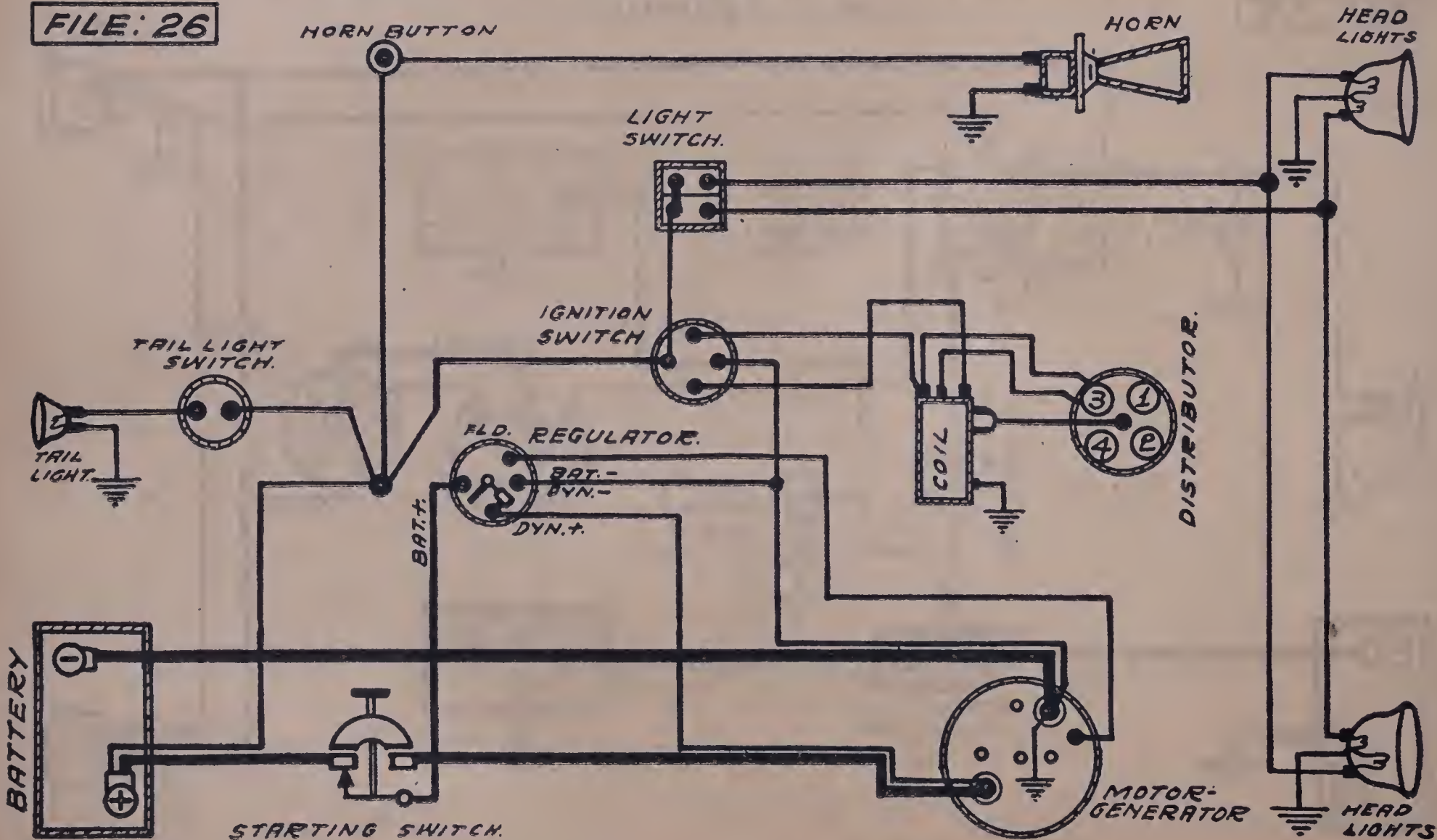


NEW ERA.

1915.

6-VOLT, ALLIS-CHALMERS SYSTEM, ATWATER-KENT IGNITION.

FILE: 26

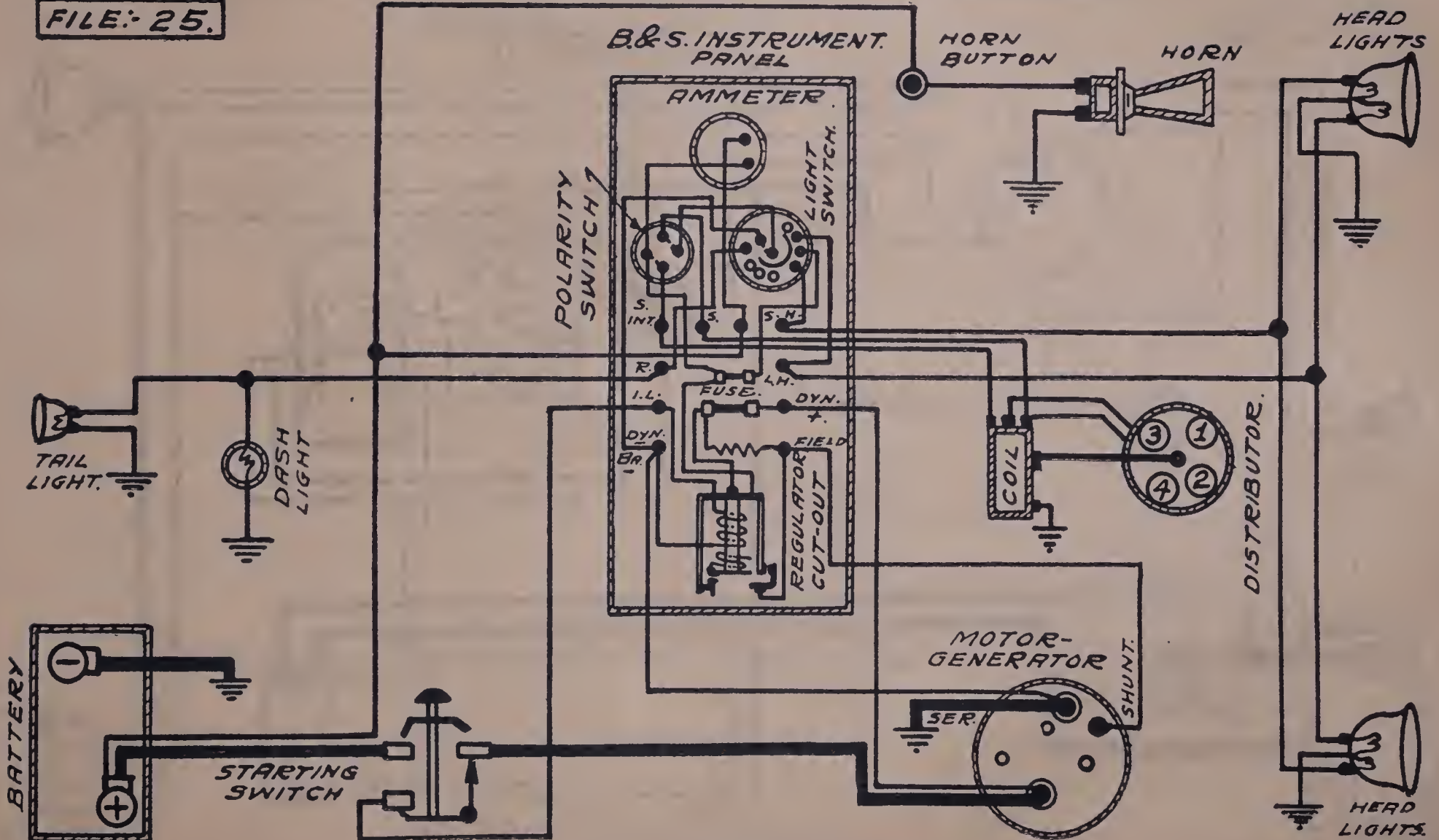


NEW ERA

1916.

6-VOLT, ALLIS-CHALMERS SYSTEM.

FILE: 25.



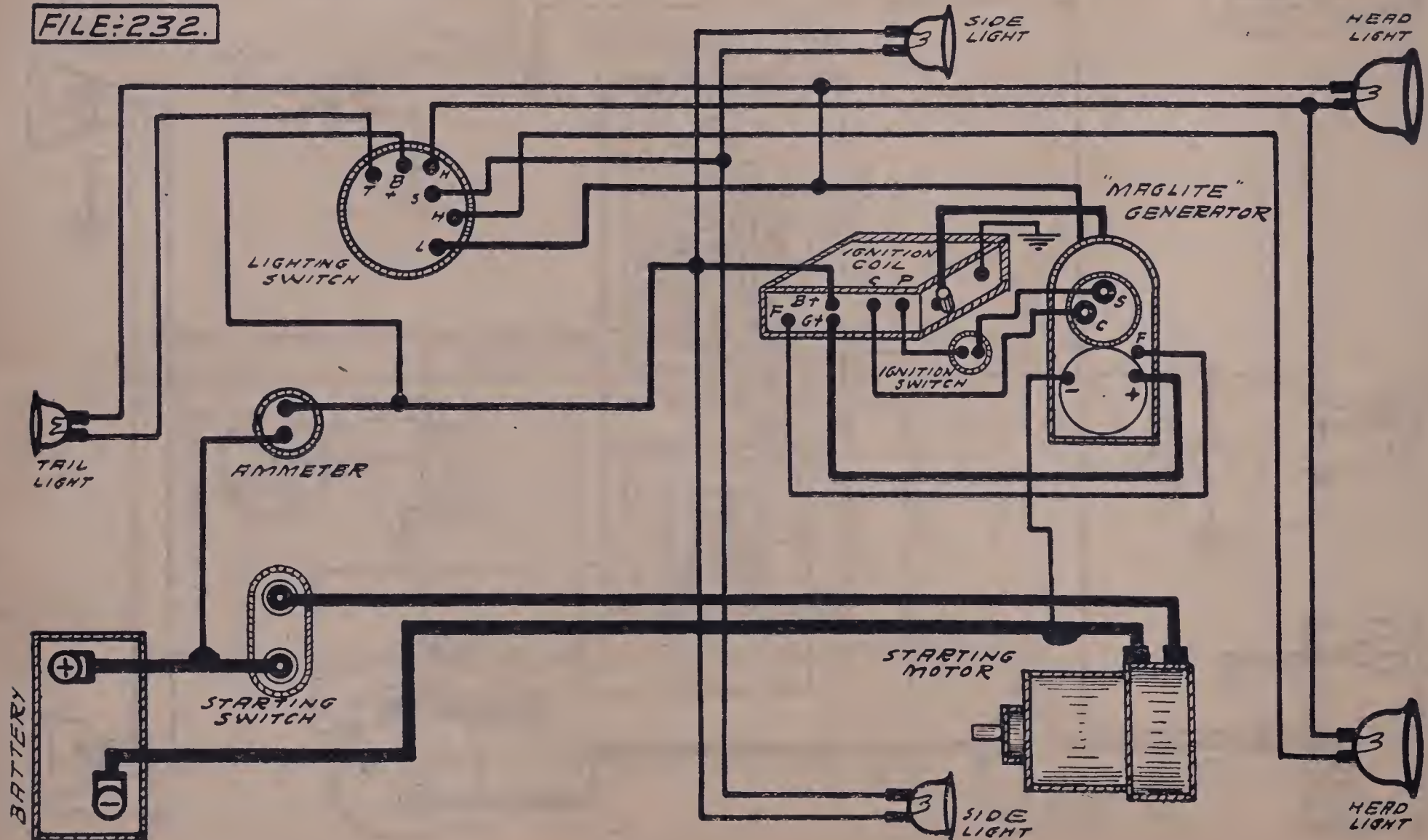
OAKLAND

1913

MODEL "35-SPECIAL"

6-VOLT, BRIGGS-MAGLITE SYSTEM-DEARCO STARTING SYSTEM.

FILE:232.



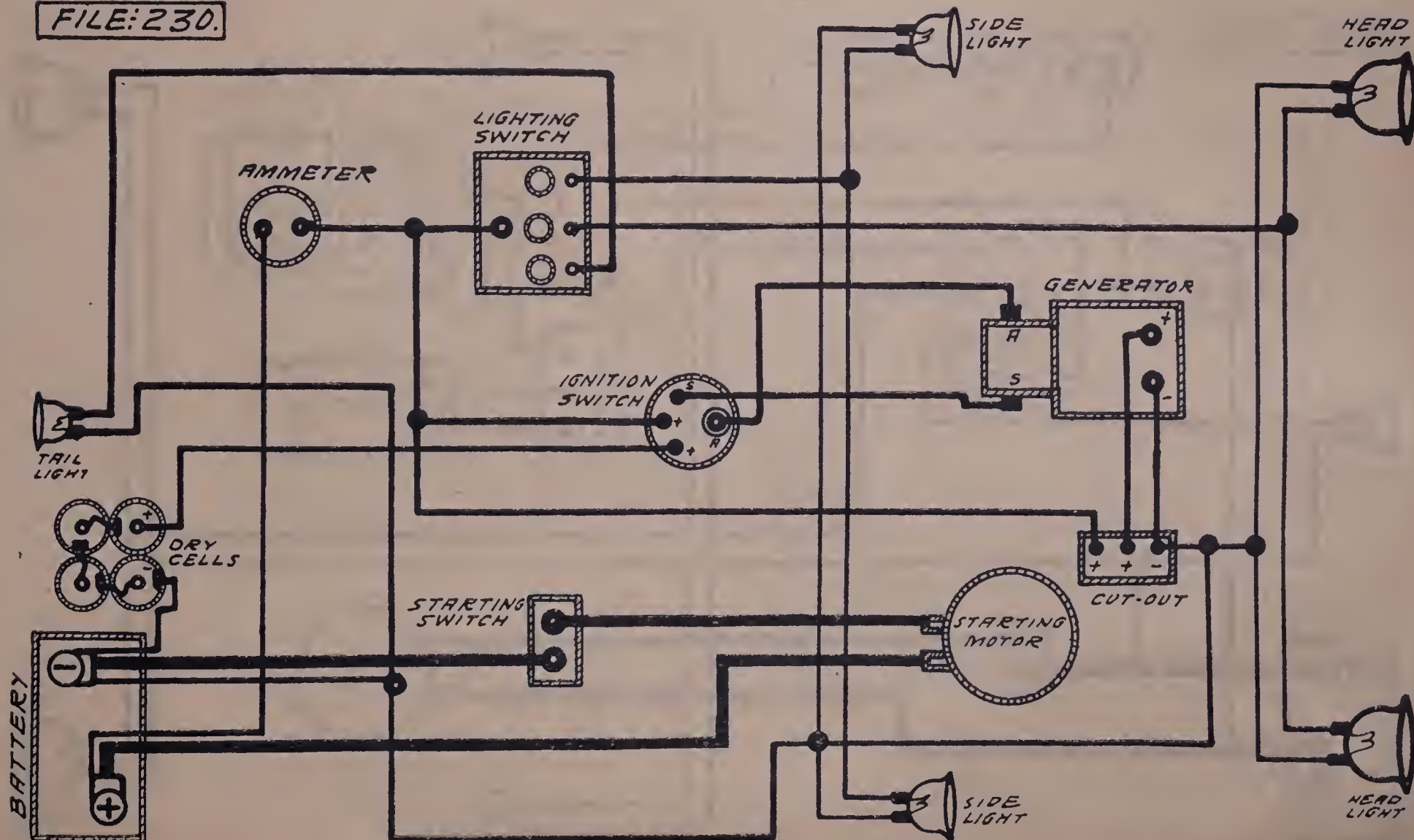
1913

OAKLAND

MODEL 35.

6-VOLT, DEACO SYSTEM.

FILE: 230.



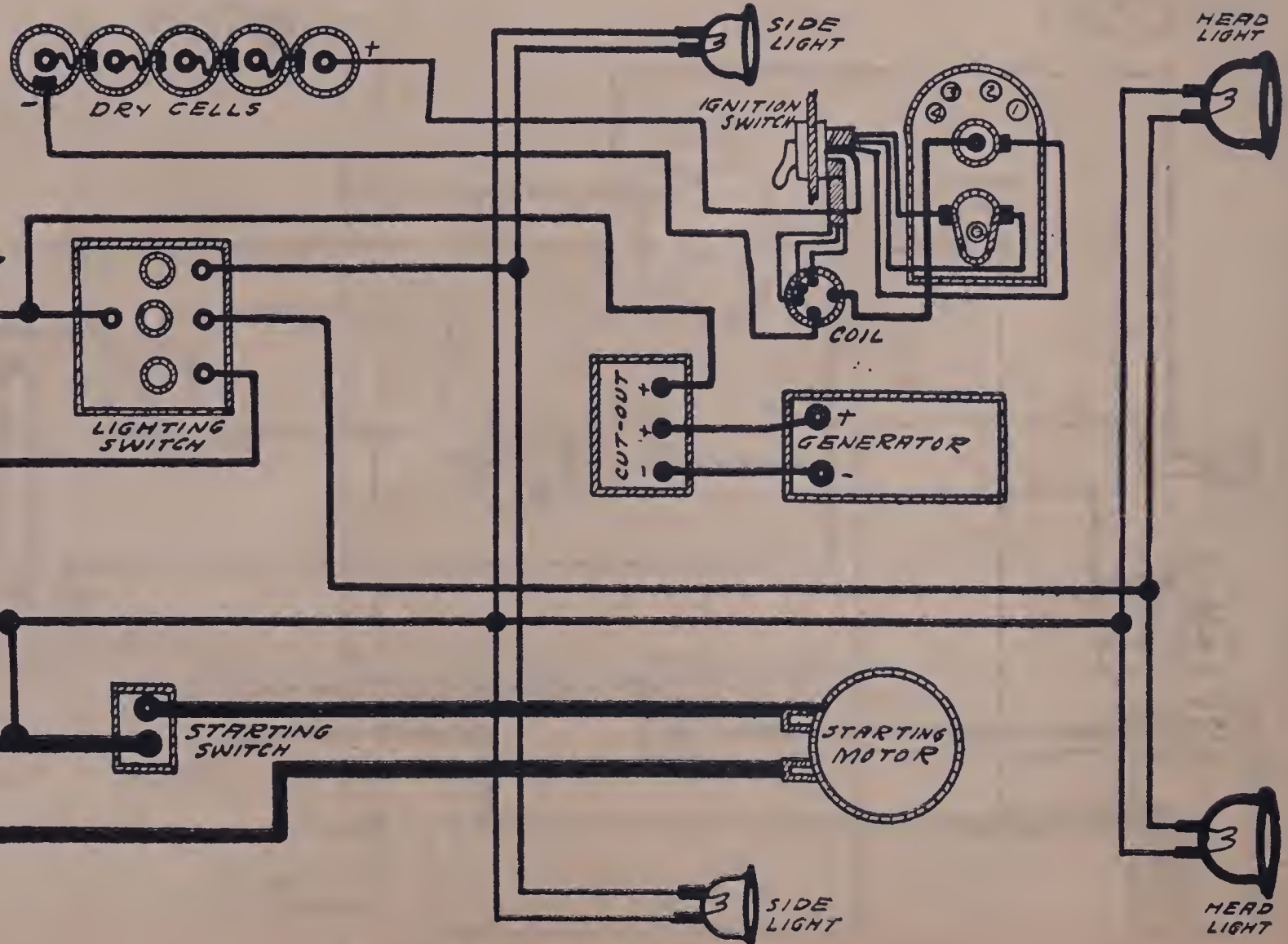
OAKLAND

1913

MODEL 35, 42.

6-VOLT, DEARCO SYSTEM.

FILE:233.



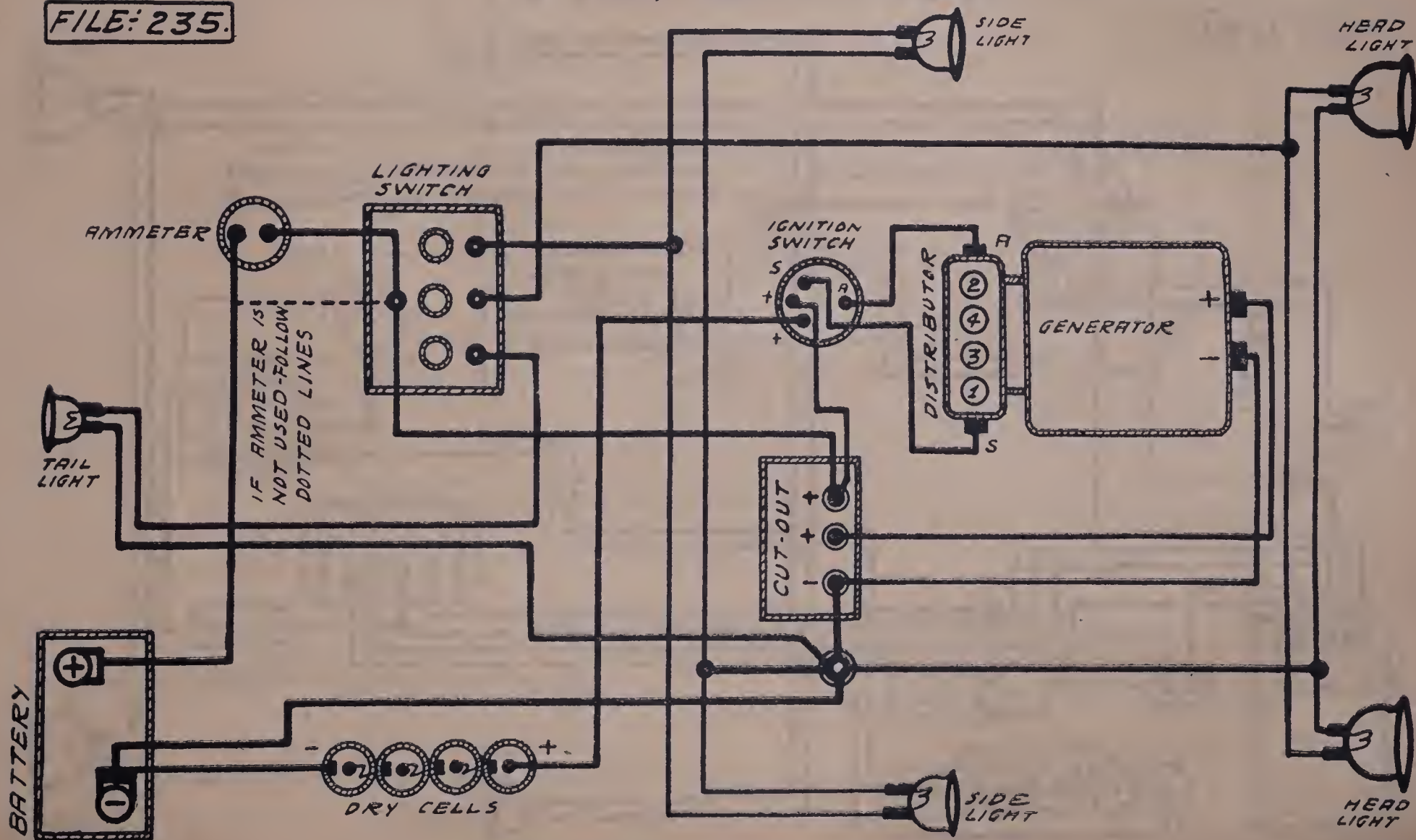
1913

OAKLAND

MODEL 42.

6-VOLT, DEACO SYSTEM.

FILE: 235.



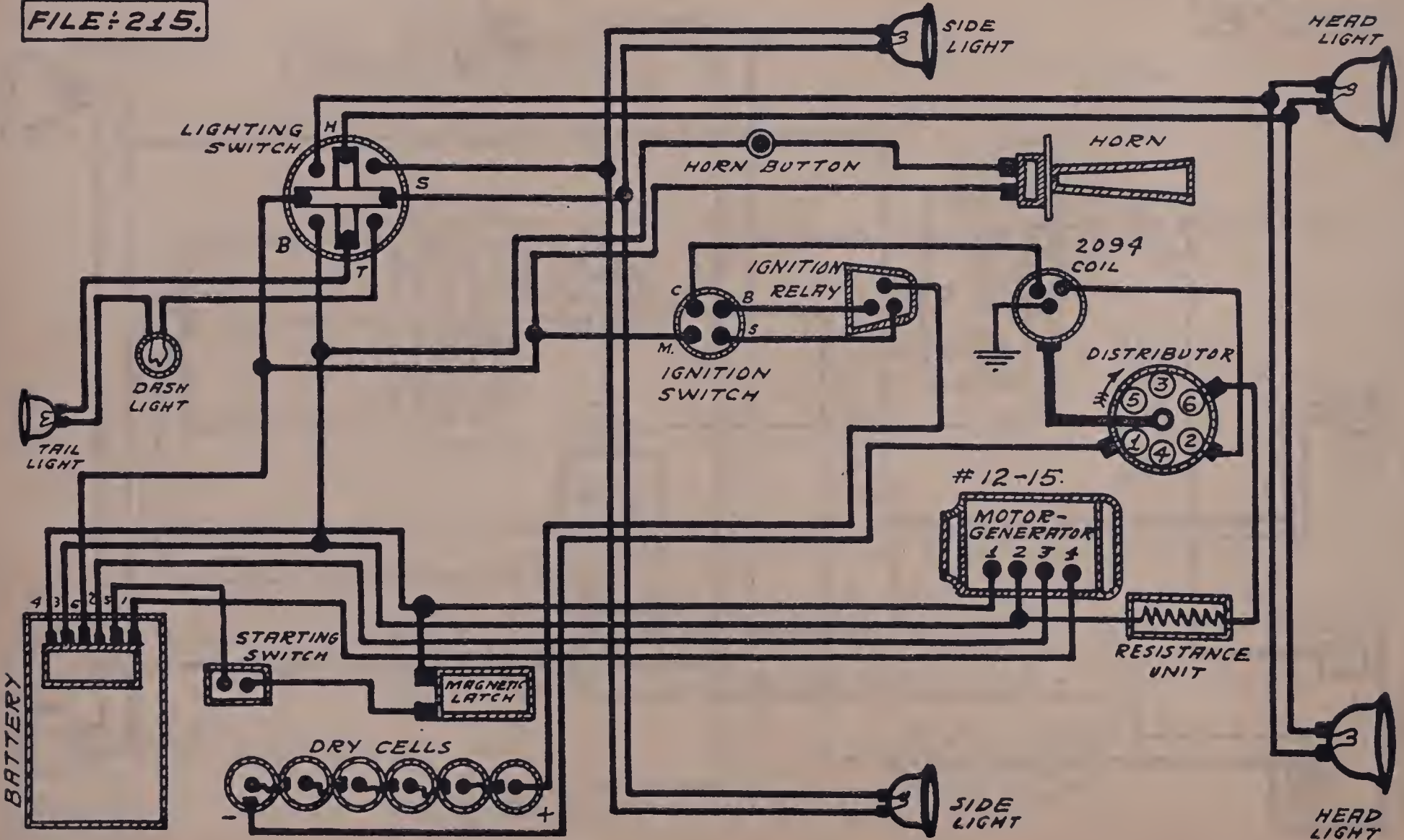
OAKLAND

1913

MODELS 42, 6-60

6-24-VOLT, -DELCO SYSTEM.

FILE:215.



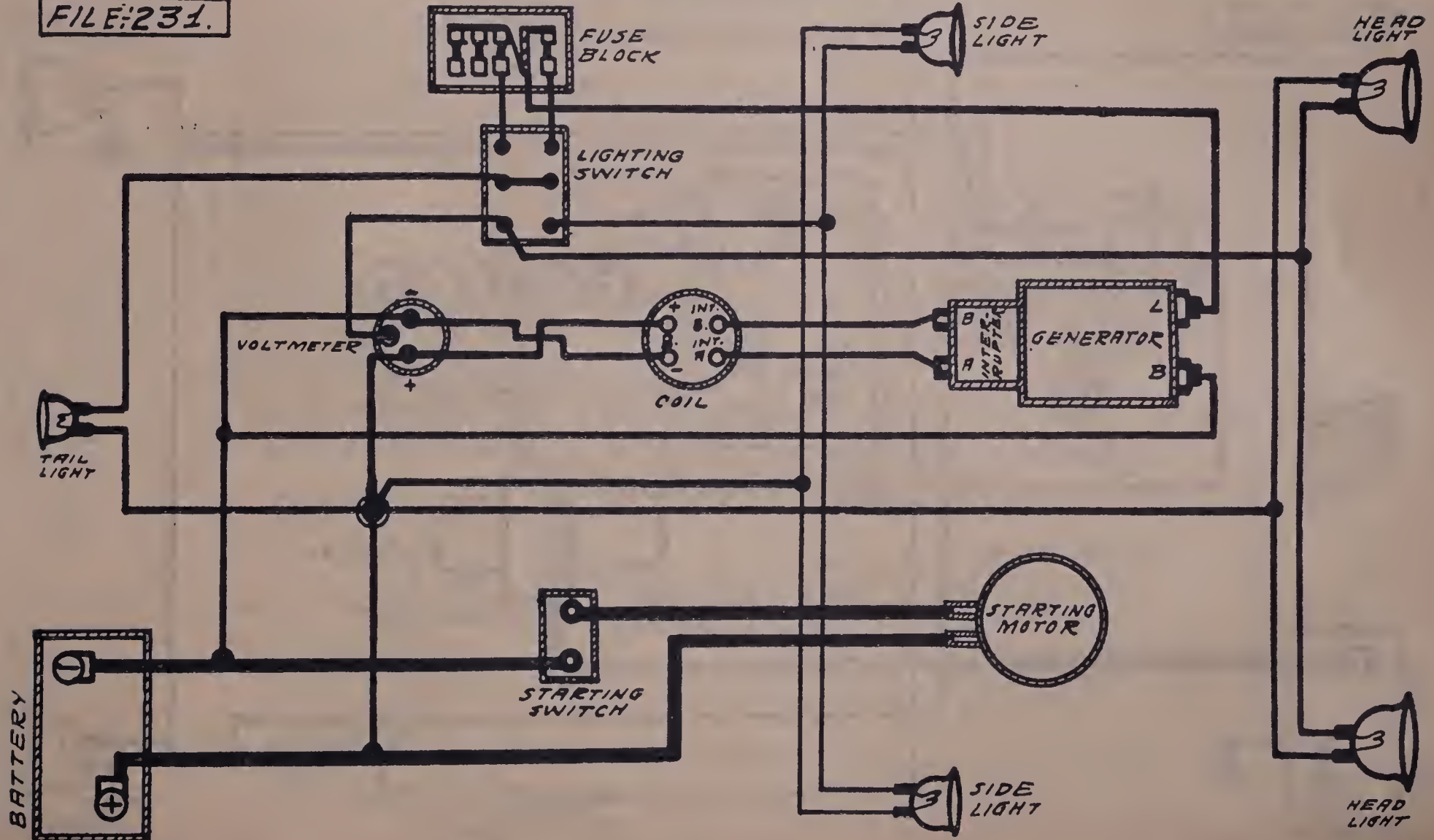
OAKLAND

1918

MODEL 35.

6-VOLT, -WESTINGHOUSE SYSTEM.

FILE:231.



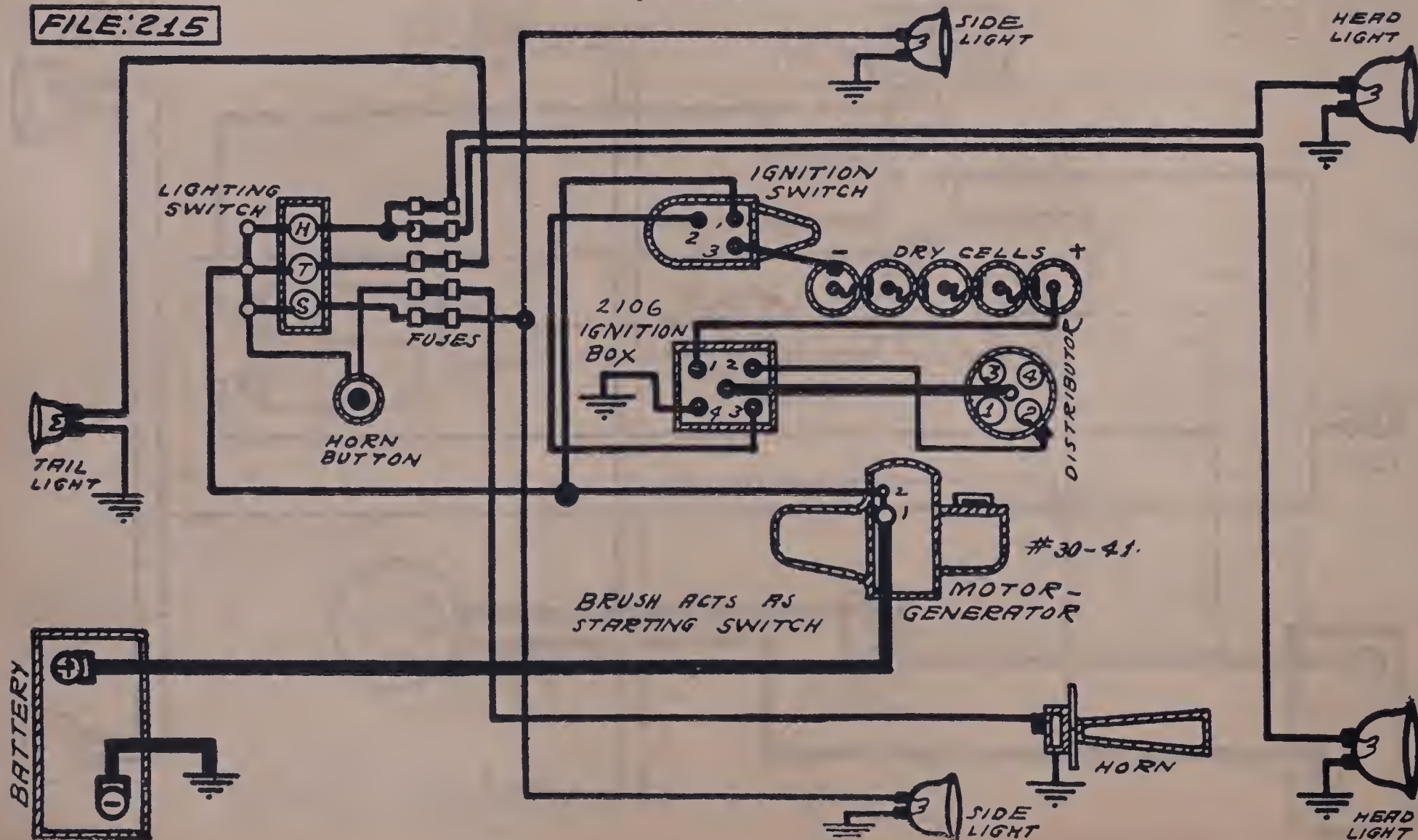
OAKLAND

1914

MODEL 36

6-VOLT, DELCO SYSTEM.

FILE: 215

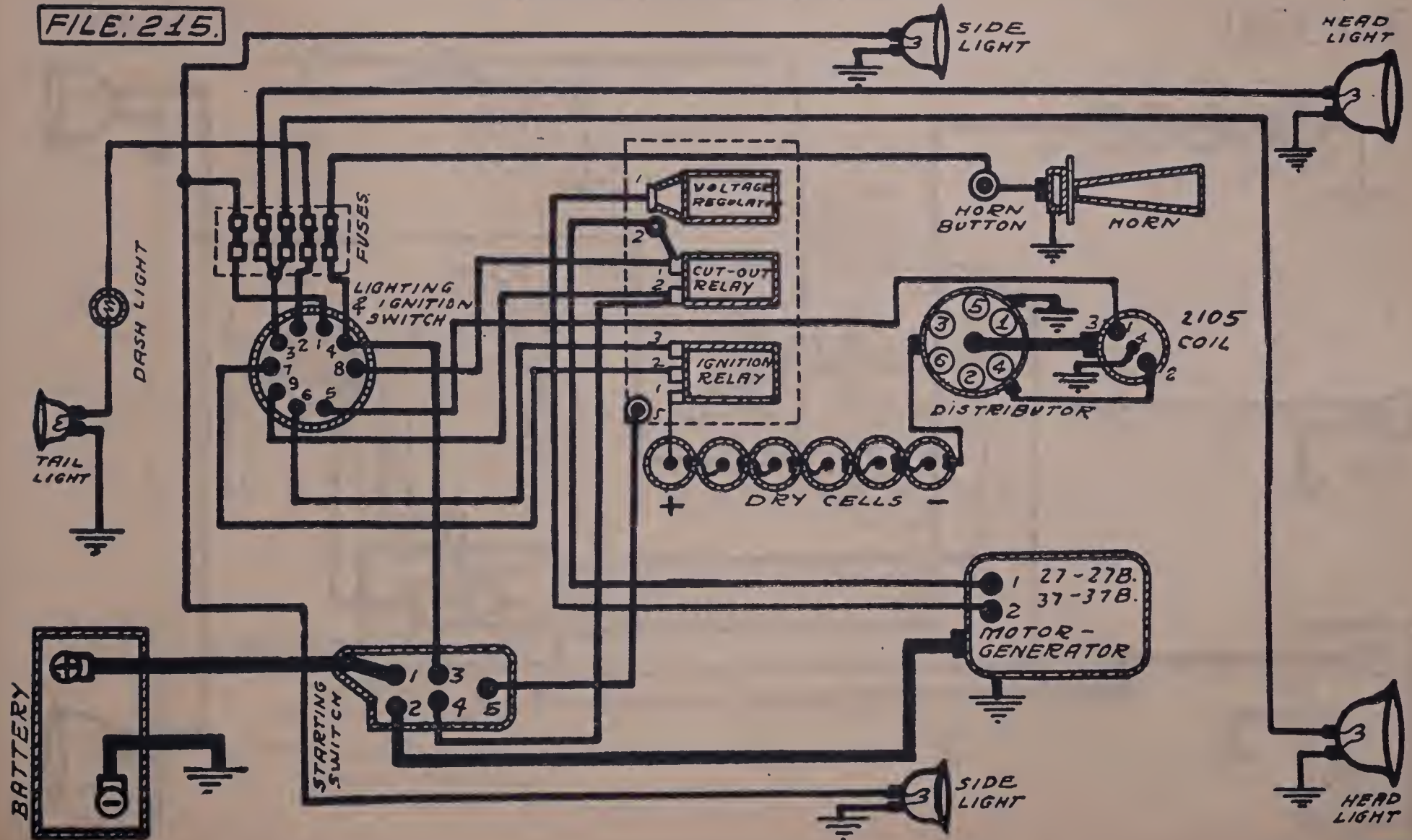


OAKLAND

1914

MODELS 48, 62, 43.

6-VOLT, DELCO SYSTEM.



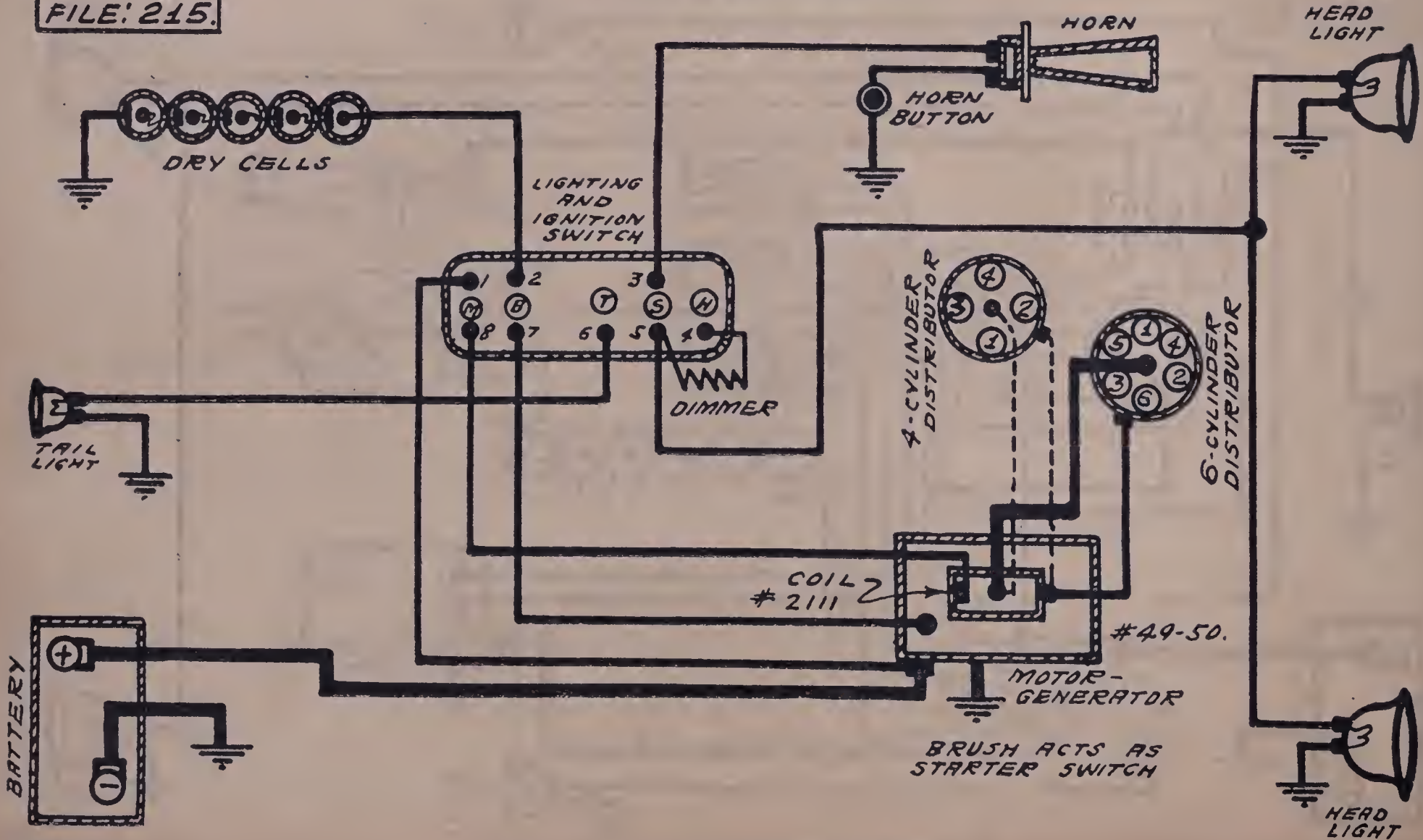
OAKLAND

1915

MODEL 37, 49

6-VOLT, DELCO SYSTEM.

FILE: 215.



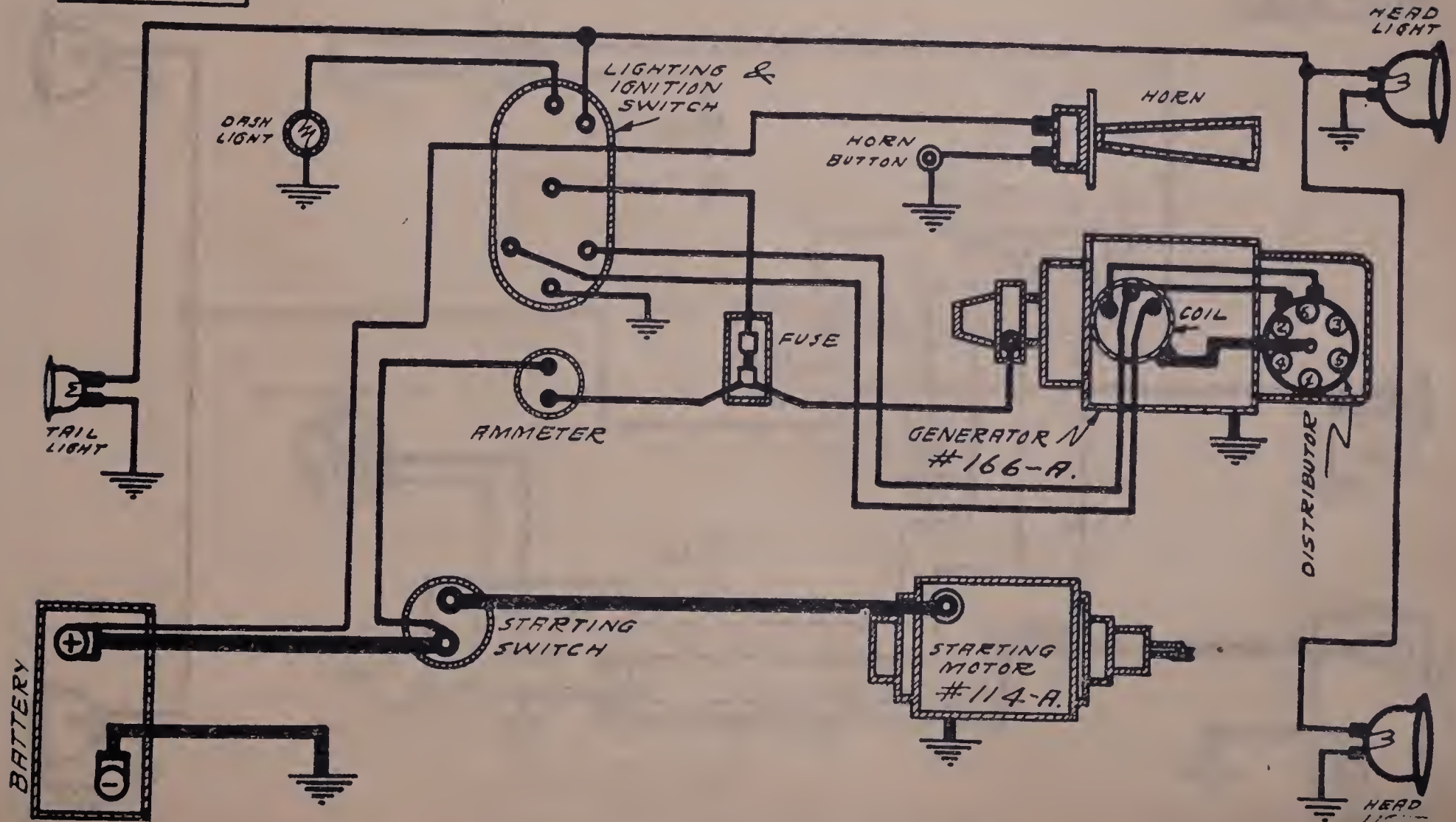
1916

OAKLAND

MODEL 32-B.

6-VOLT, - REMY SYSTEM.

FILE: 234.



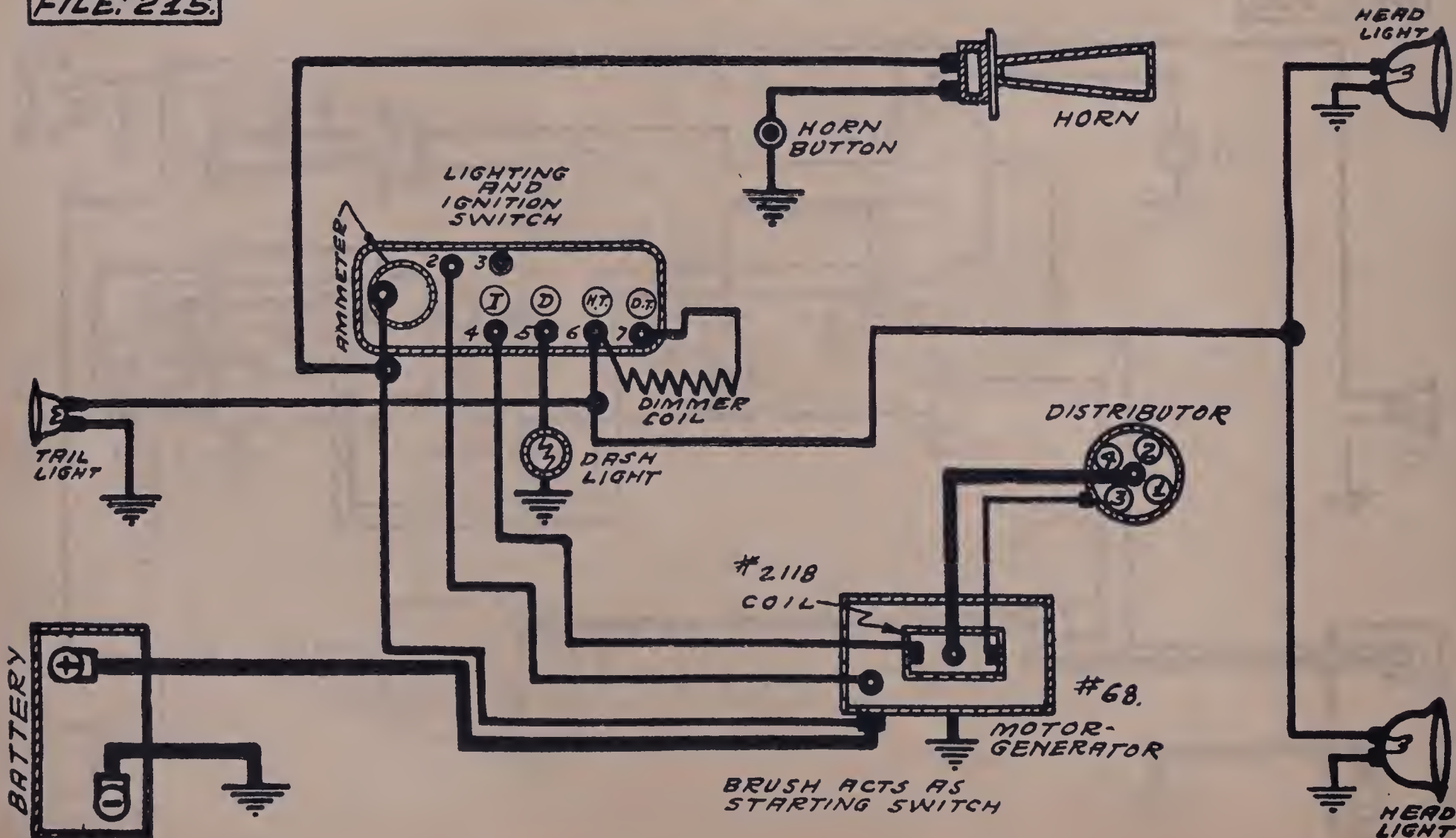
OAKLAND

1916

MODEL 38.

6-VOLT, -DELCO SYSTEM.

FILE: 215.



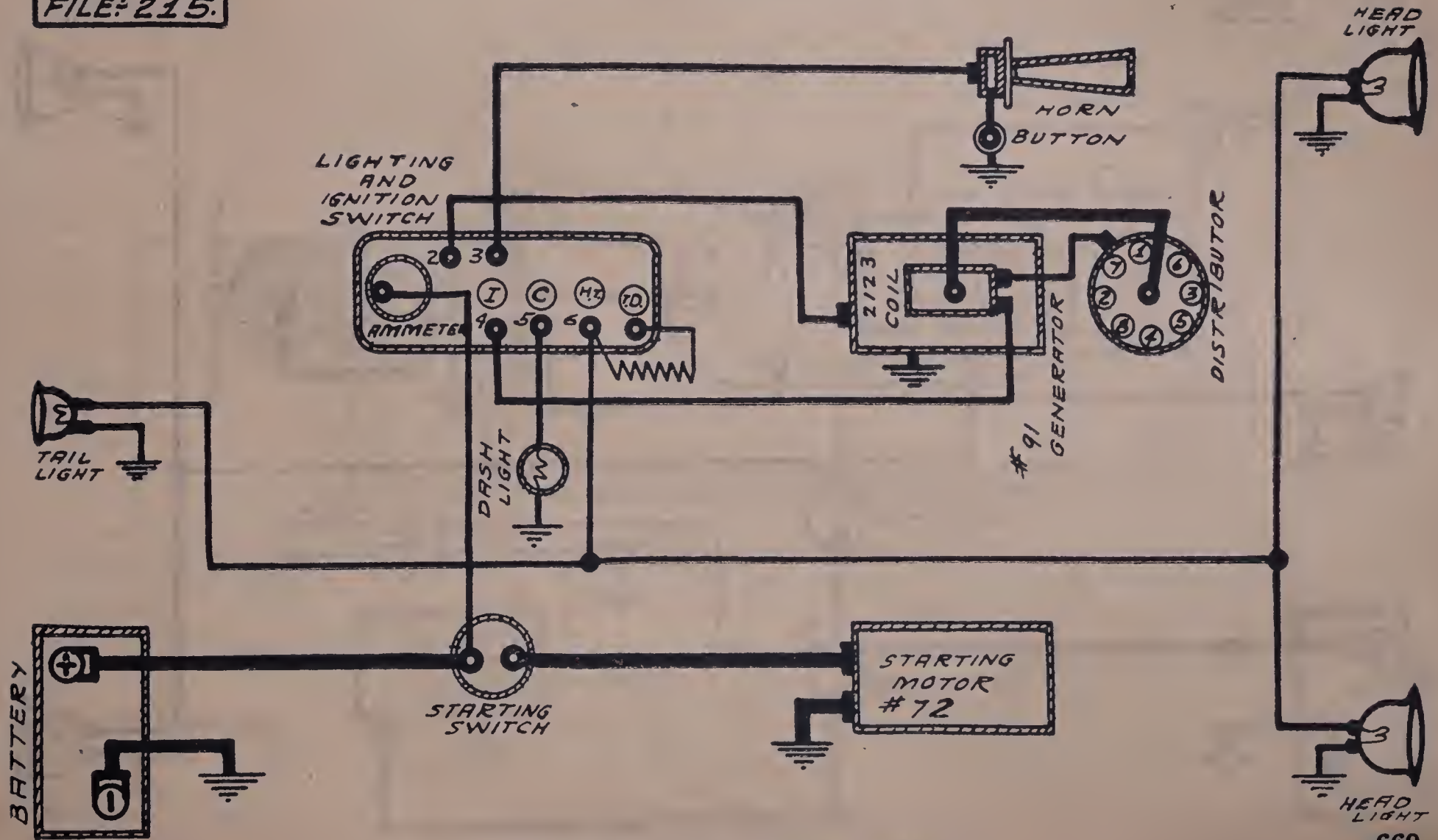
1916

OAKLAND

MODEL 50

6-VOLT, DELCO SYSTEM.

FILE: 215.



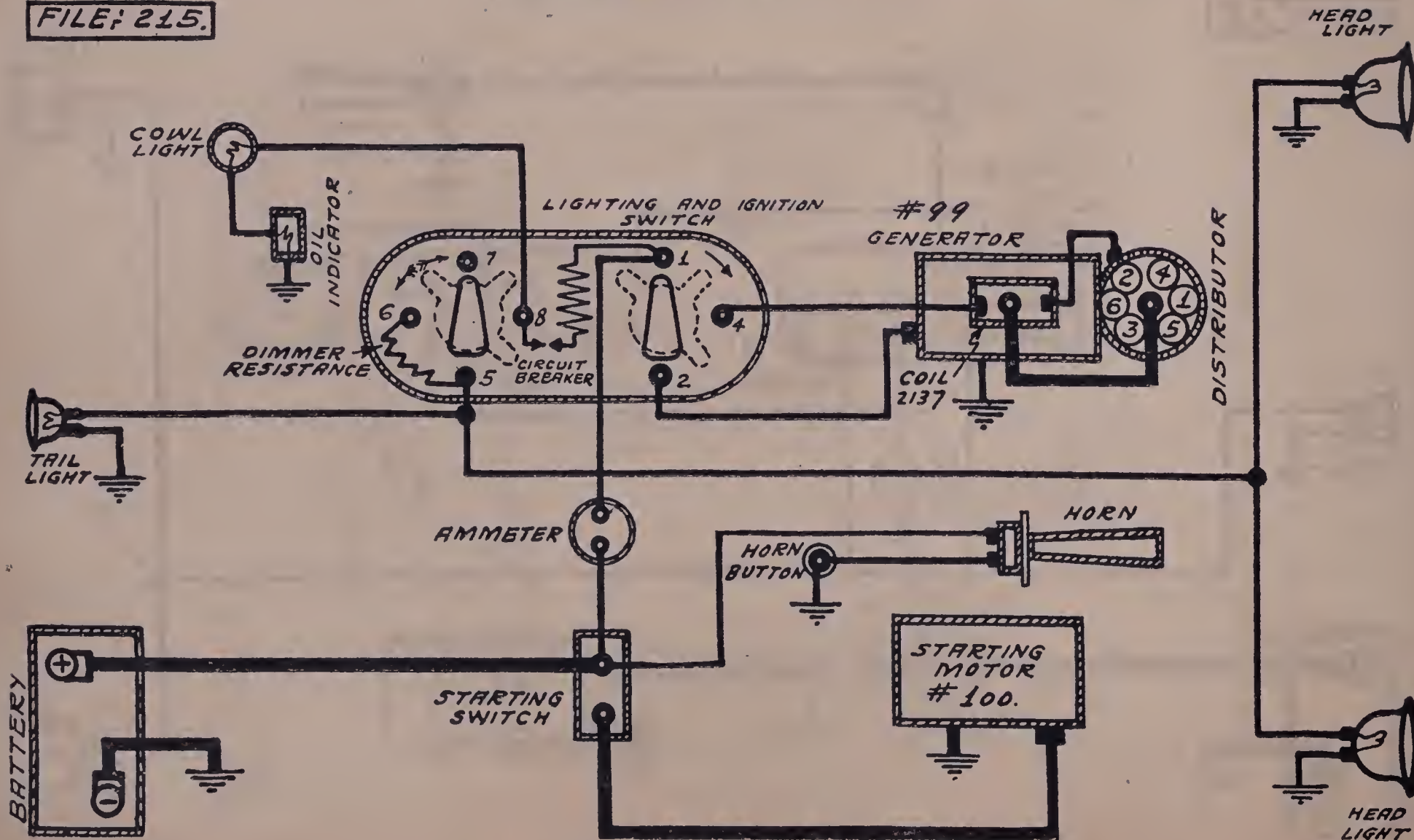
OAKLAND

1917

MODEL 32-B, 34.

6-VOLT, DELCO SYSTEM.

FILE: 215.



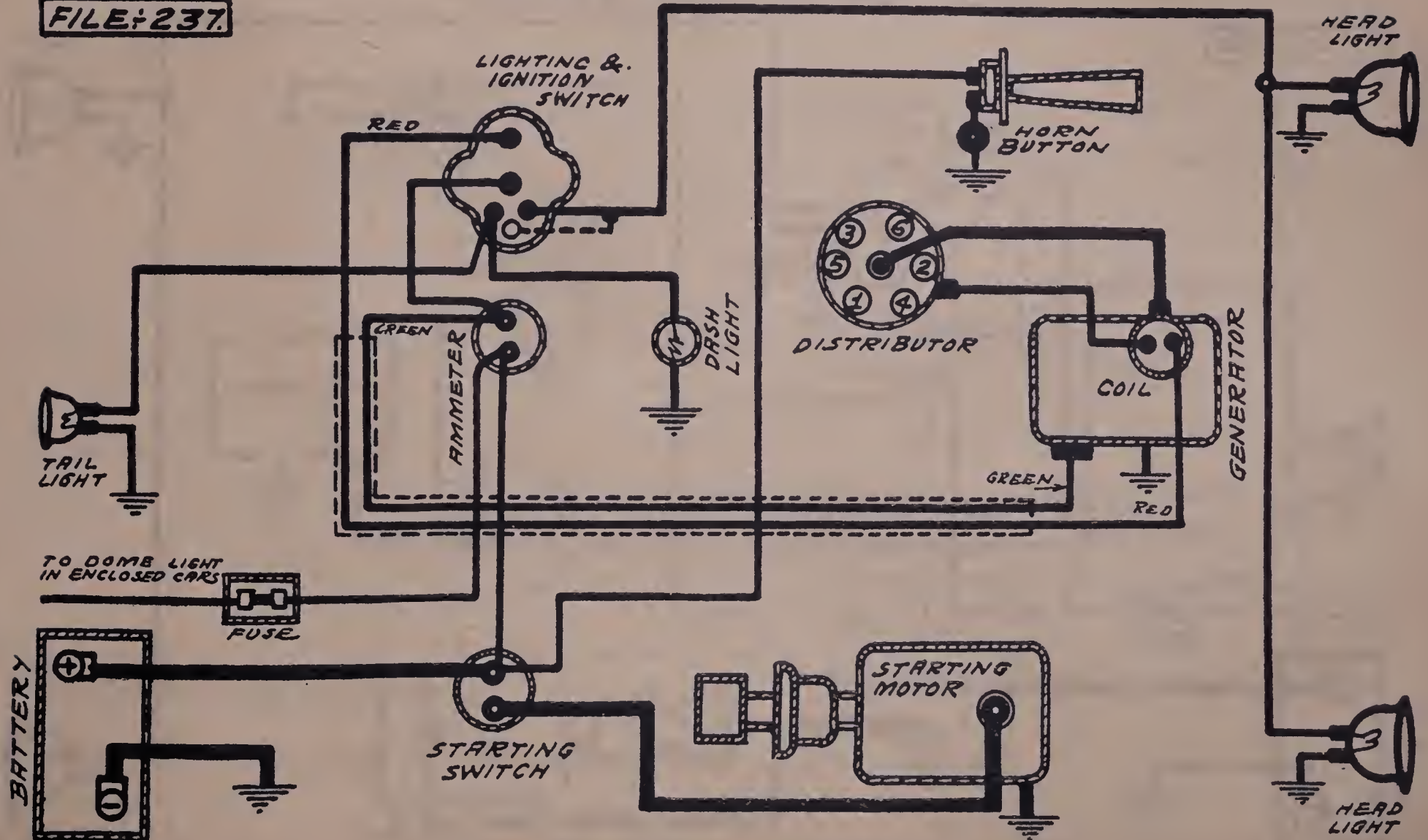
OAKLAND

1918-1919-MODEL 34-B.

1920-MODEL 34C, TC, RD.

6-VOLT, REMY SYSTEM.

FILE: 237.



OAKLAND

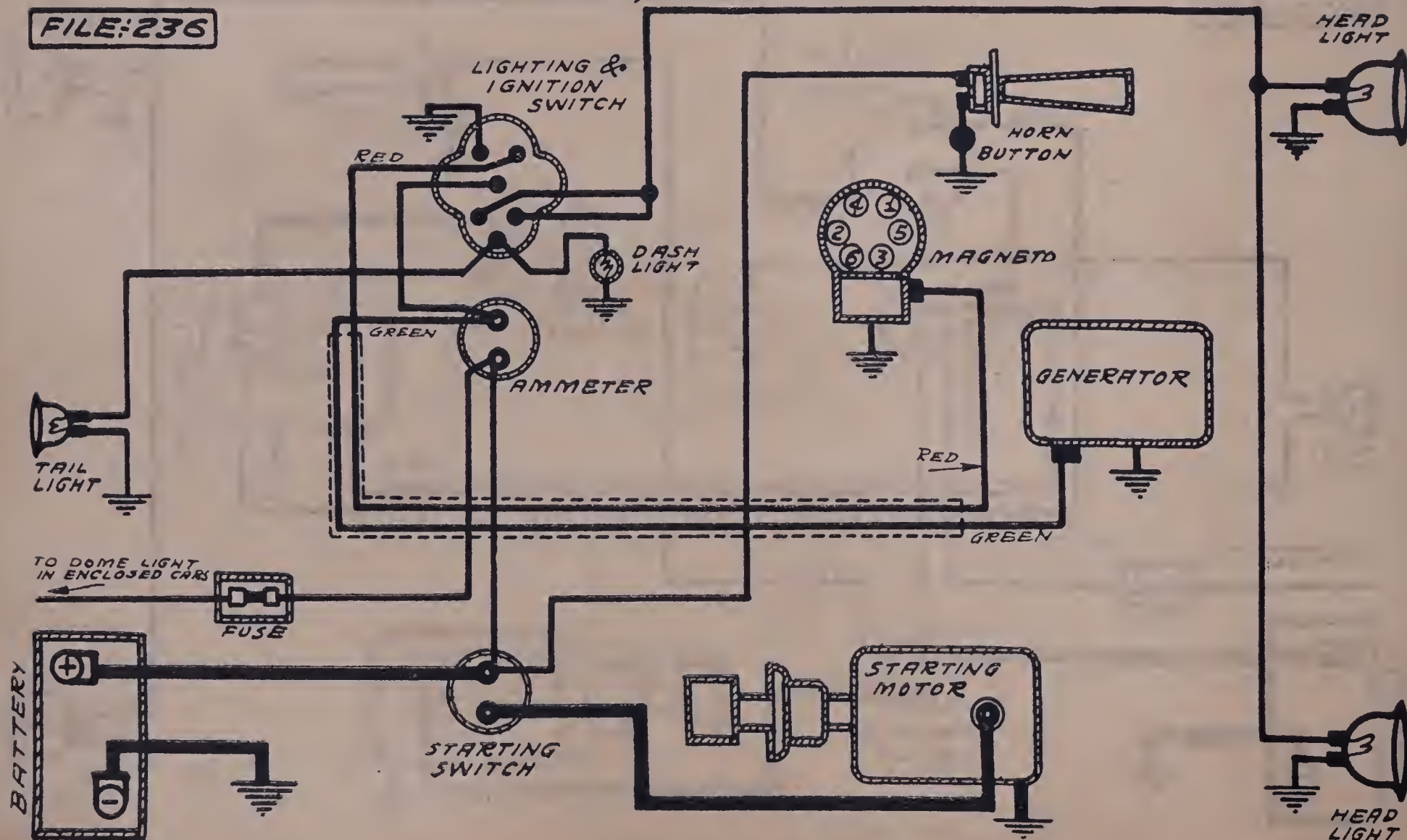
1920

MAGNETO EQUIPPED.-

MODEL 34C, TC, RD.

6-VOLT, REMY SYSTEM.

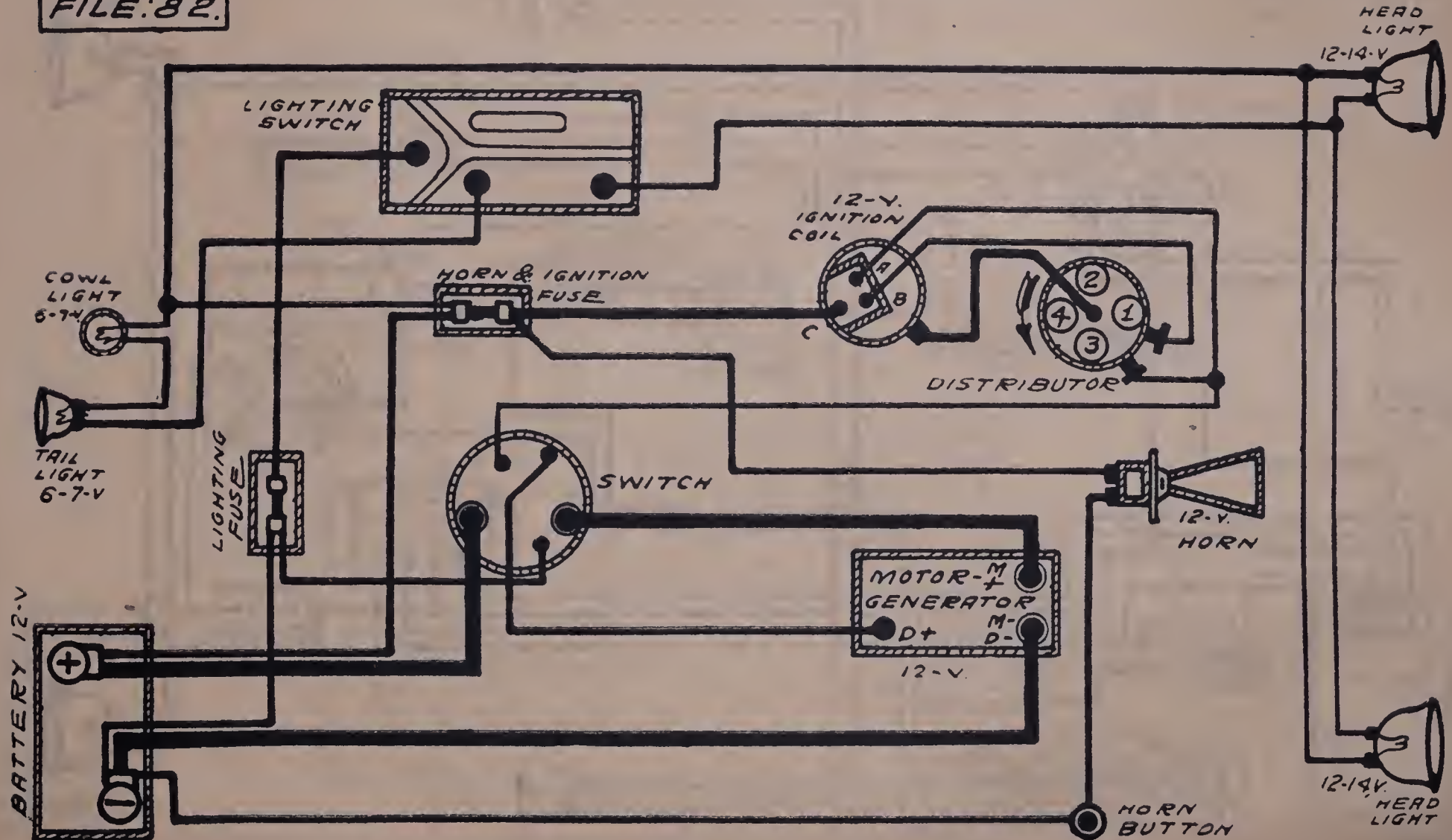
FILE:236



OLD HICKORY TRUCK

1916-1917-1918-1919.
12-VOLT, DYNETO SYSTEM.

FILE: 82.



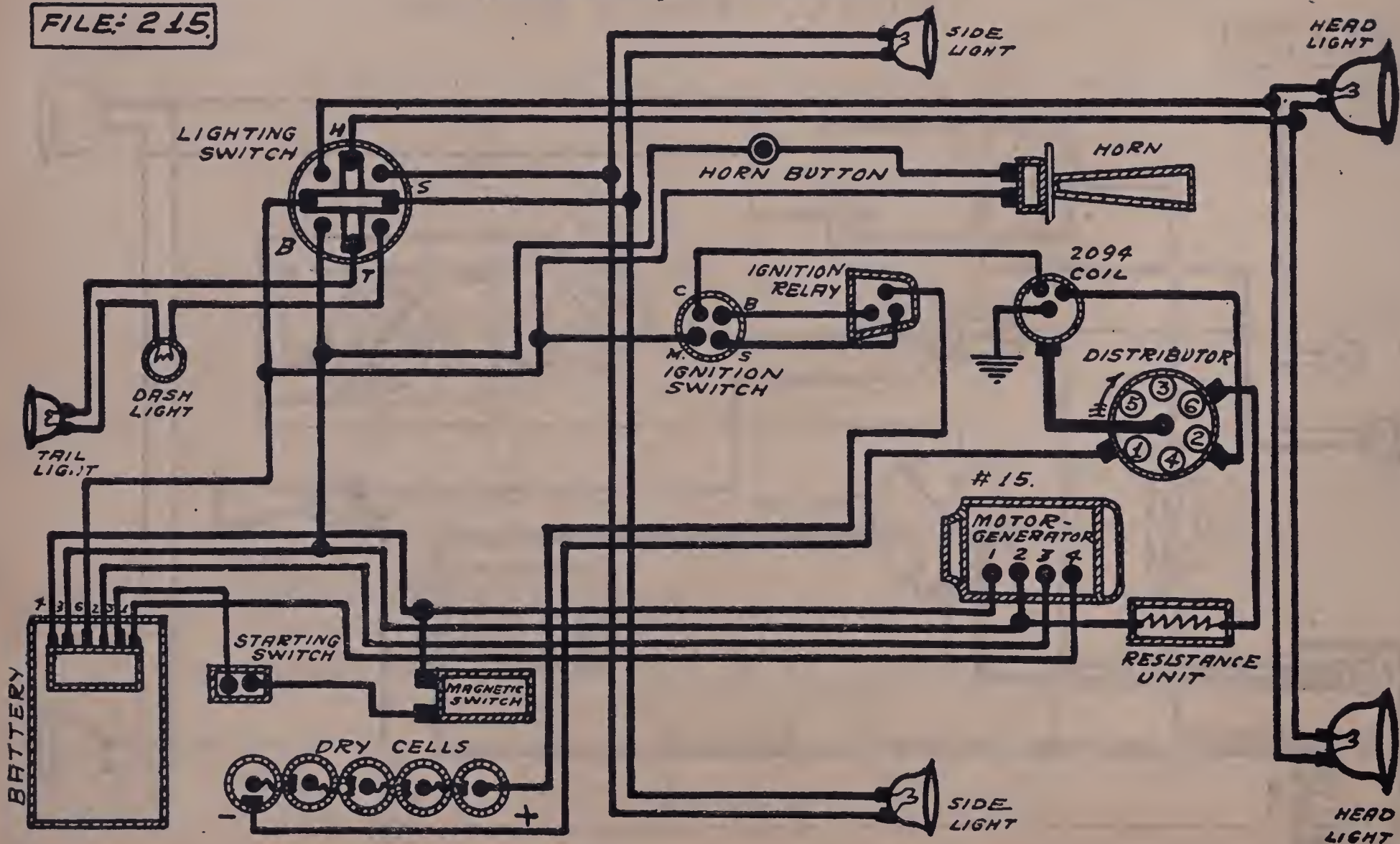
OLDSMOBILE

1913

MODEL 53.

6-24-DELCO SYSTEM.

FILE: 215.

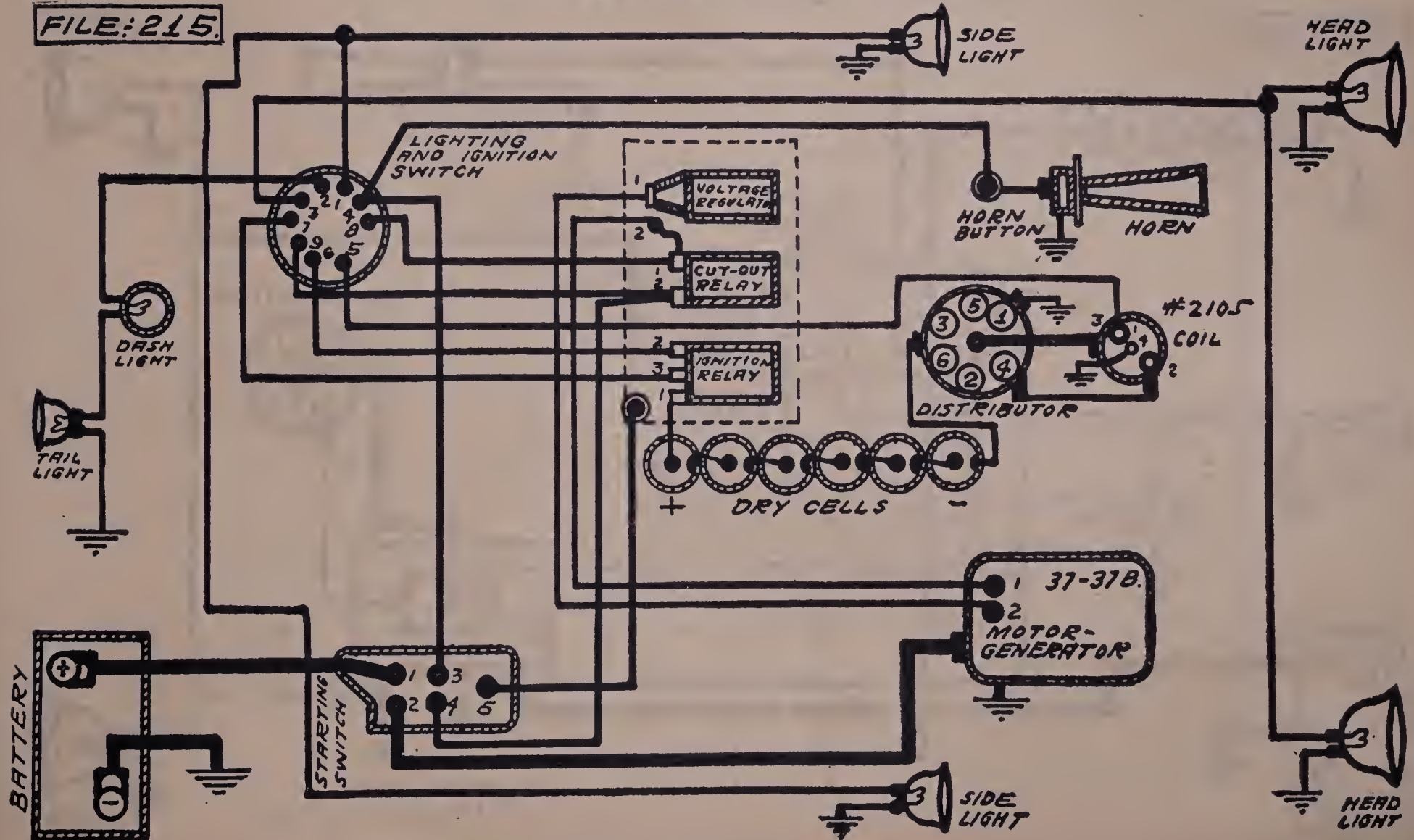


OLDSMOBILE

1914

MODEL 54.

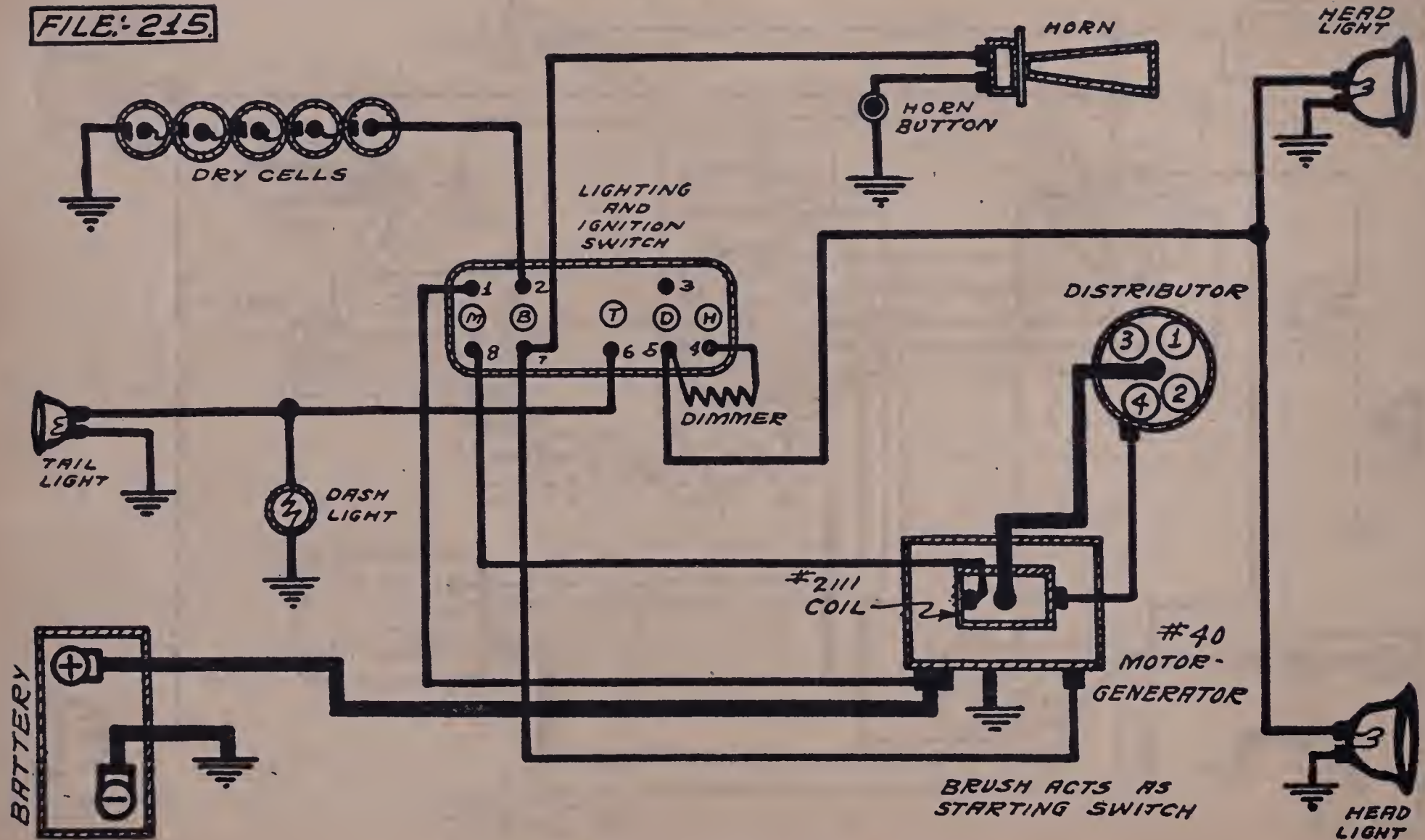
6-VOLT, - DELCO SYSTEM.



OLDSMOBILE

1915 MODEL 42
6-VOLT, DELCO SYSTEM.

FILE: 215.



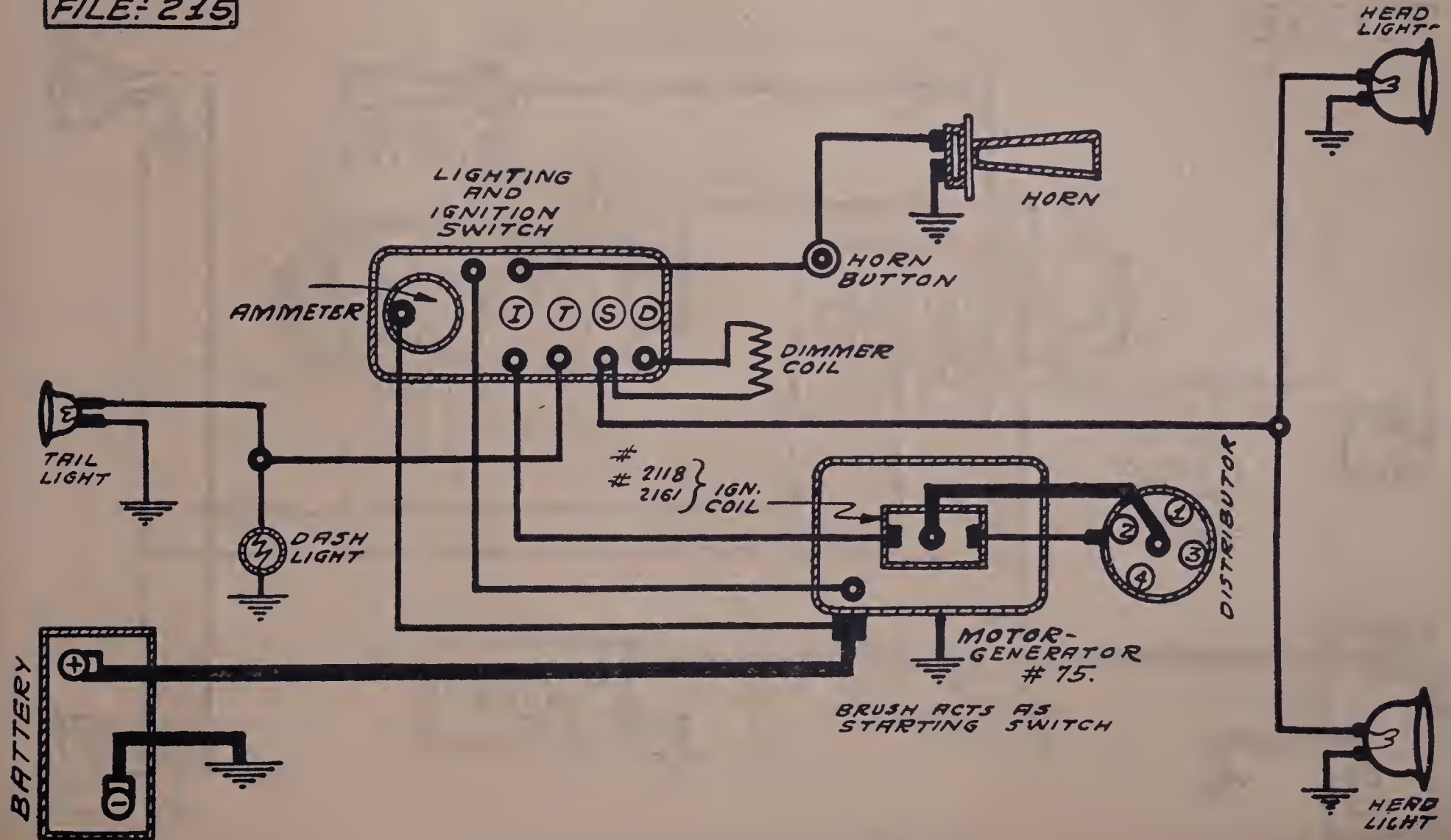
OLDSMOBILE

1916

MODEL 43.

6-VOLT, - DELCO SYSTEM.

FILE: 215



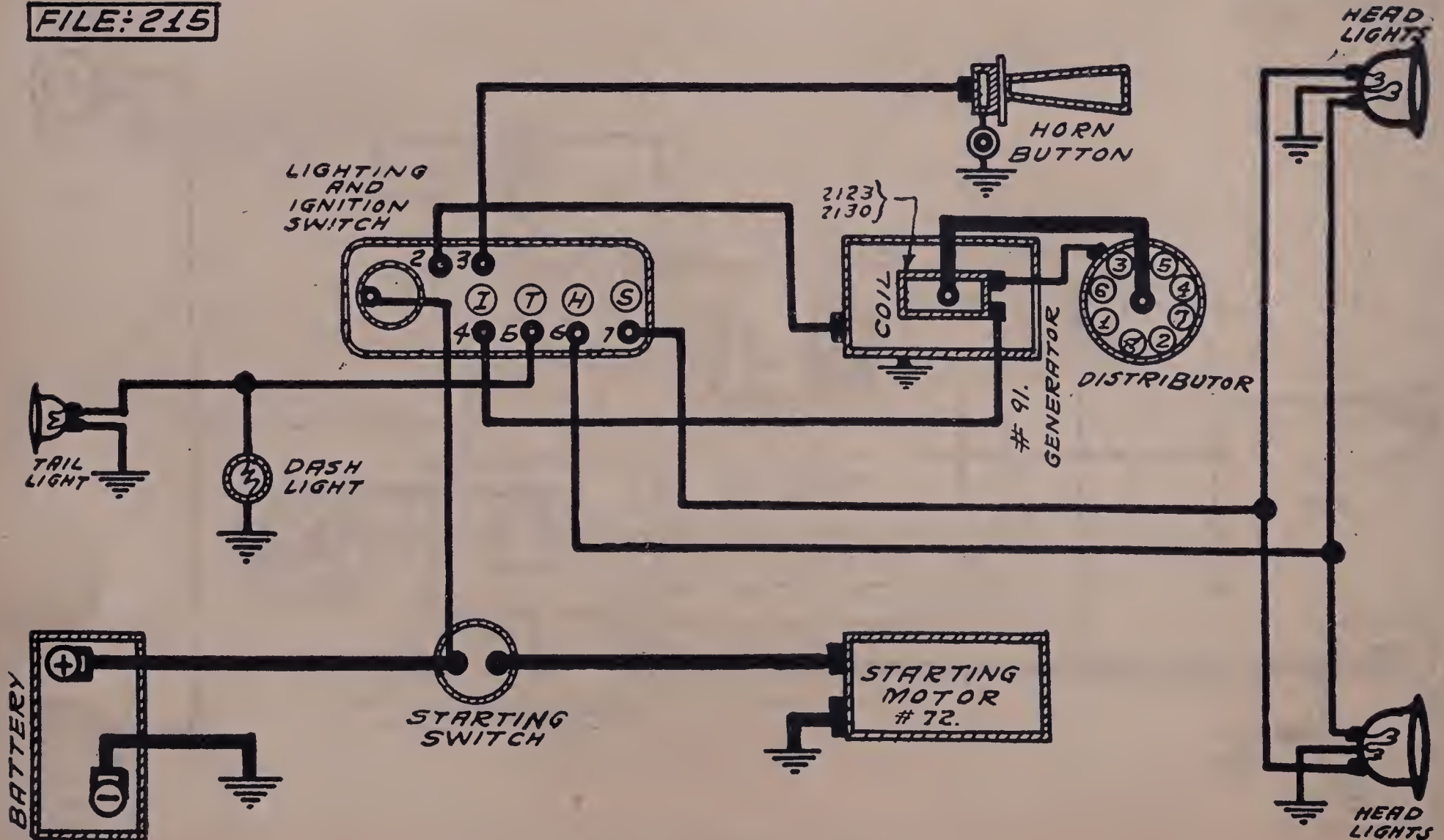
OLDSMOBILE

1916

MODEL 44

6-VOLT, DELCO SYSTEM.

FILE: 215



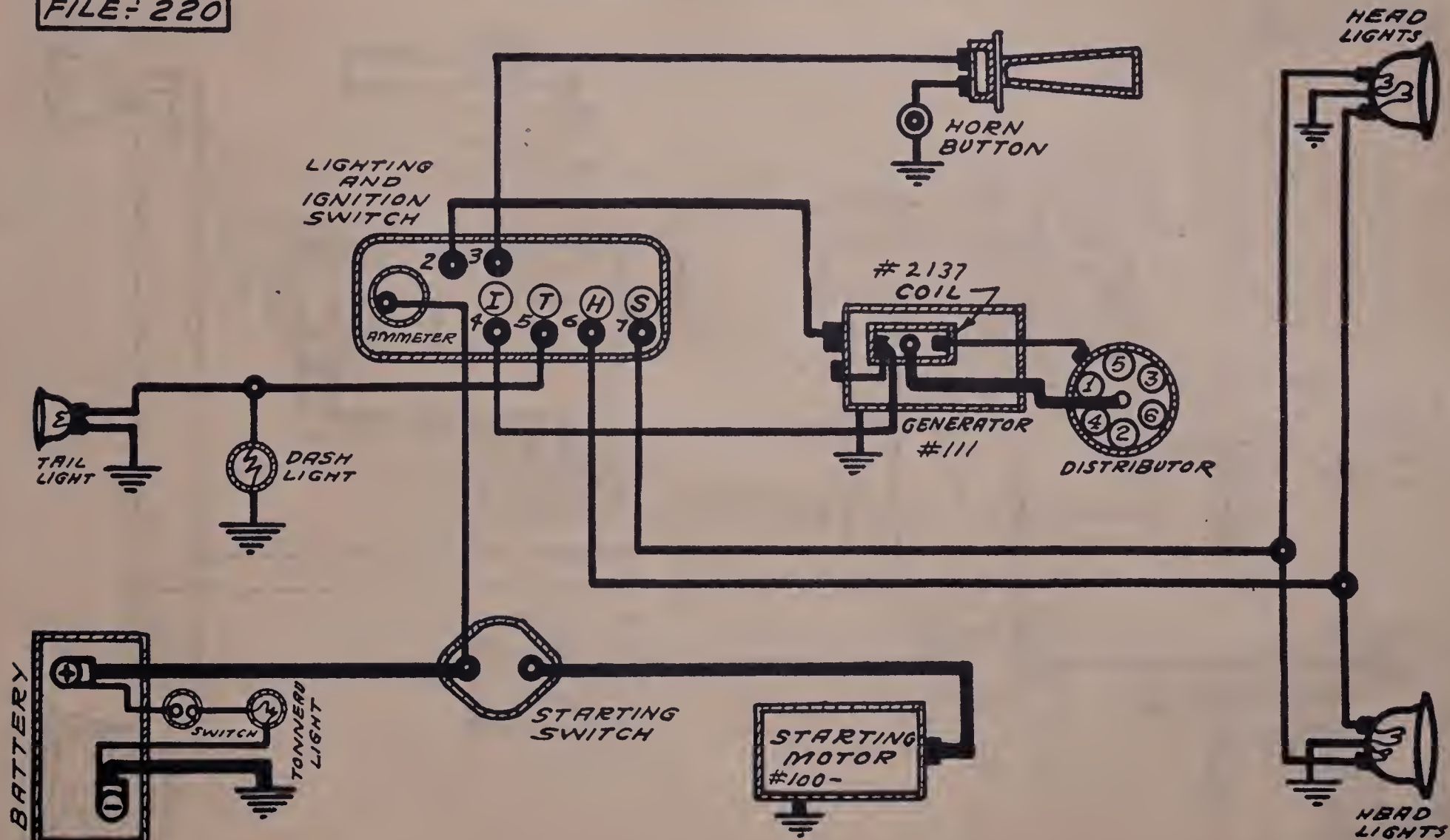
OLDSMOBILE

1917-MODEL 37

1919-MODEL 37-A.

6-VOLT, DELCO SYSTEM.

FILE: 220



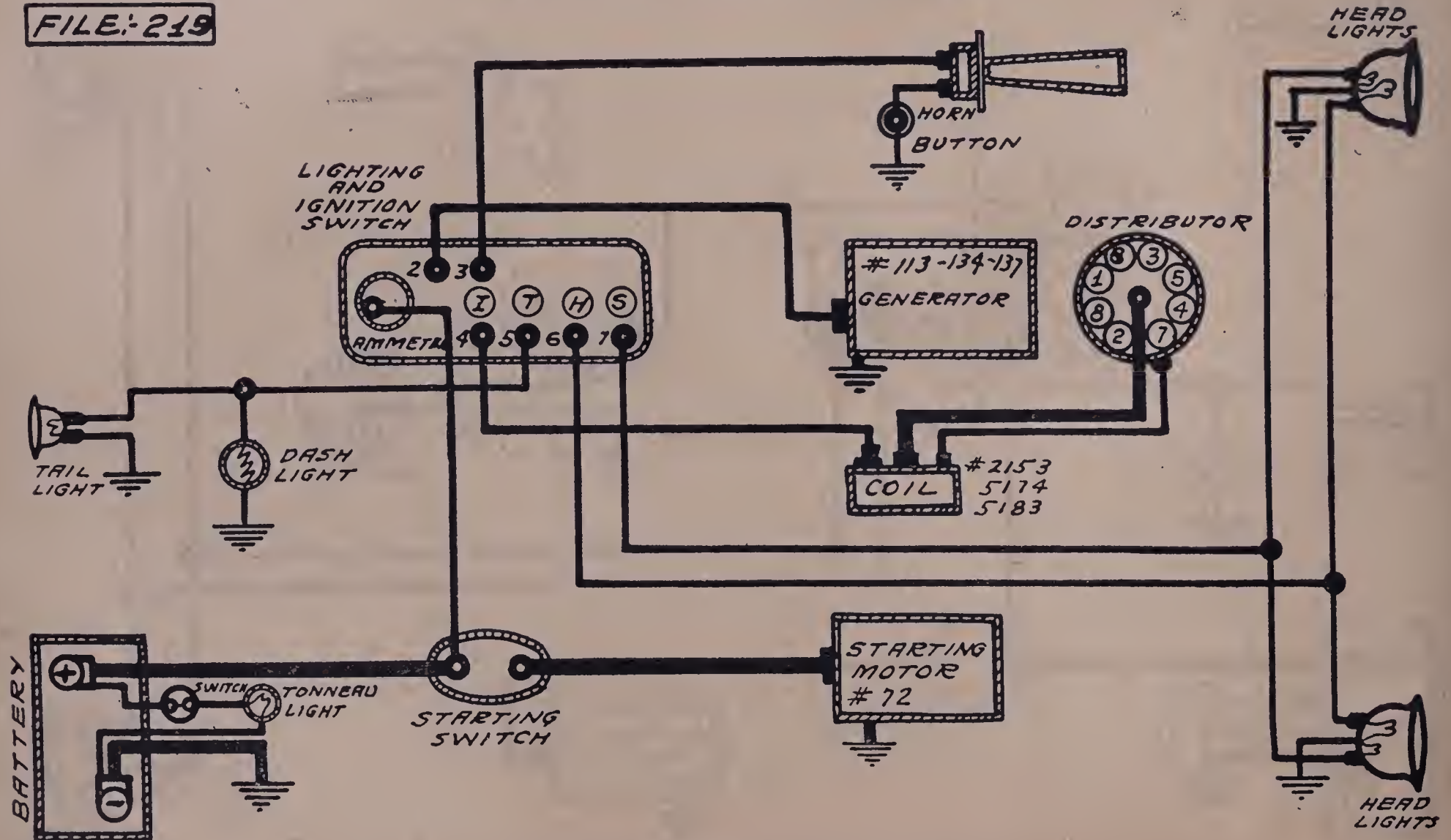
OLDSMOBILE

1917-MODEL 45.

1918-MODEL 45-R.

6-VOLT, - DELCO SYSTEM.

FILE: 219



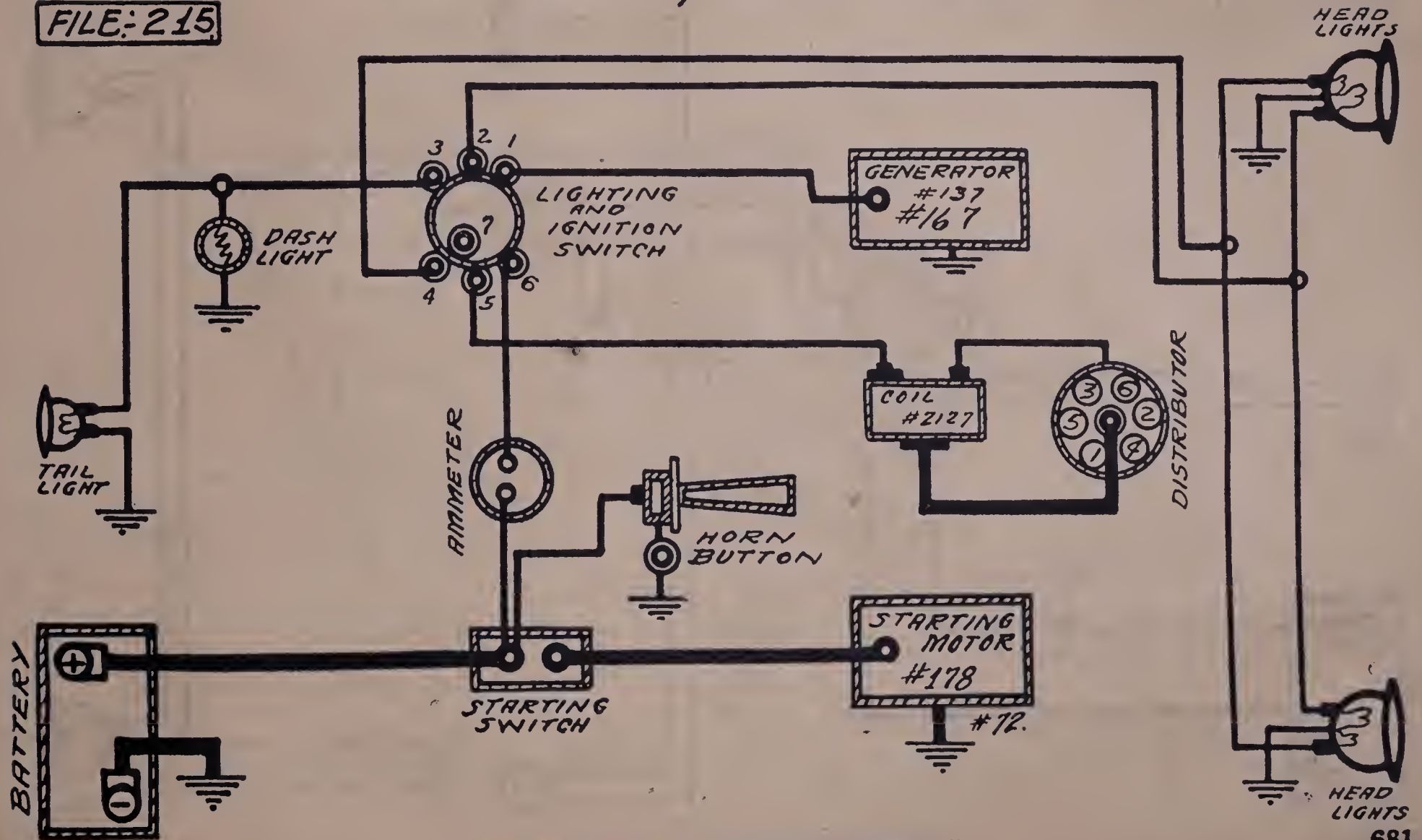
OLDSMOBILE

1919-1920.

MODEL 45-B.

6-VOLT, DELCO SYSTEM.

FILE: 215



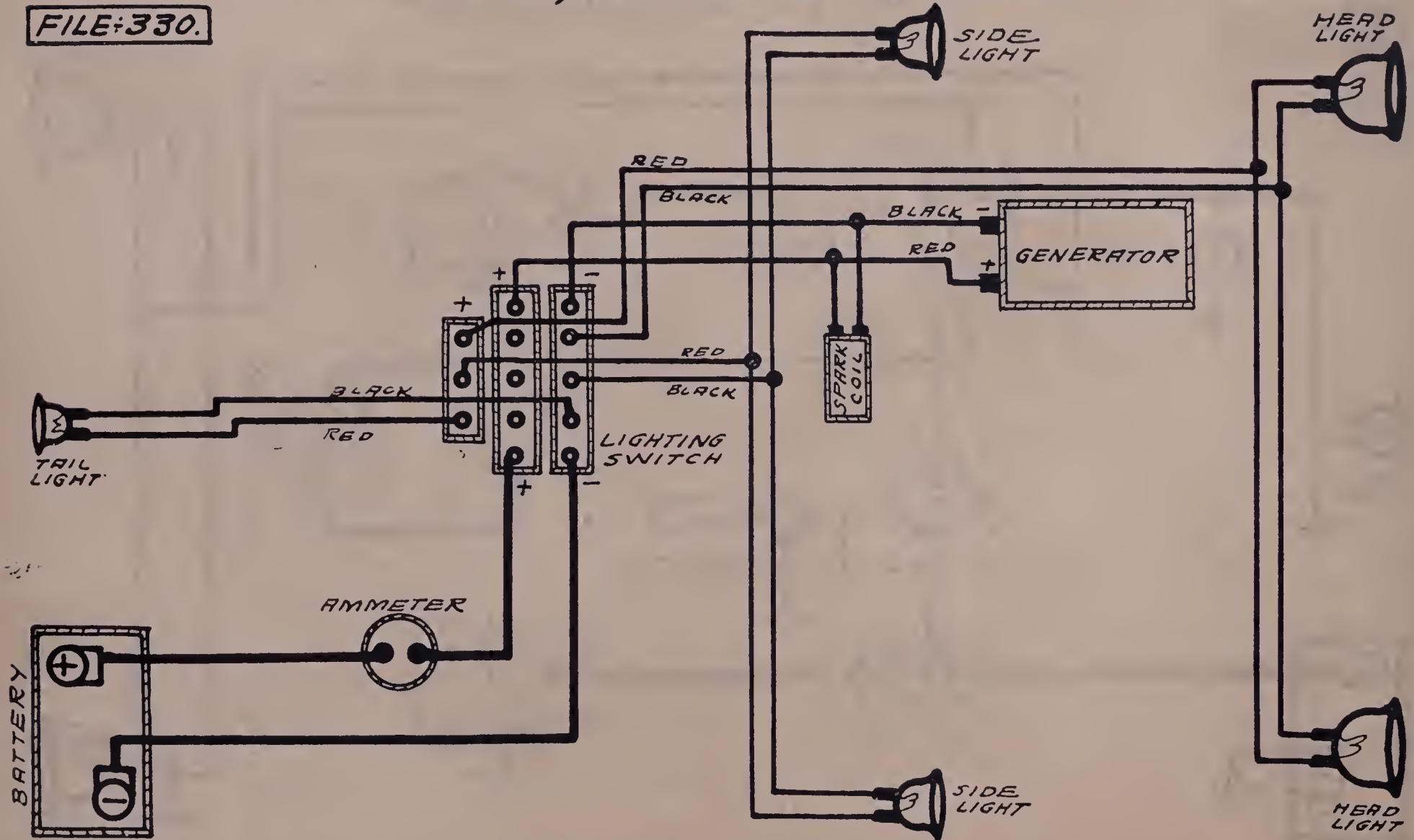
OVERLAND

1913

MODEL 69, 71.

6-VOLT, AUTOLITE LIGHTING SYSTEM.

FILE:330.



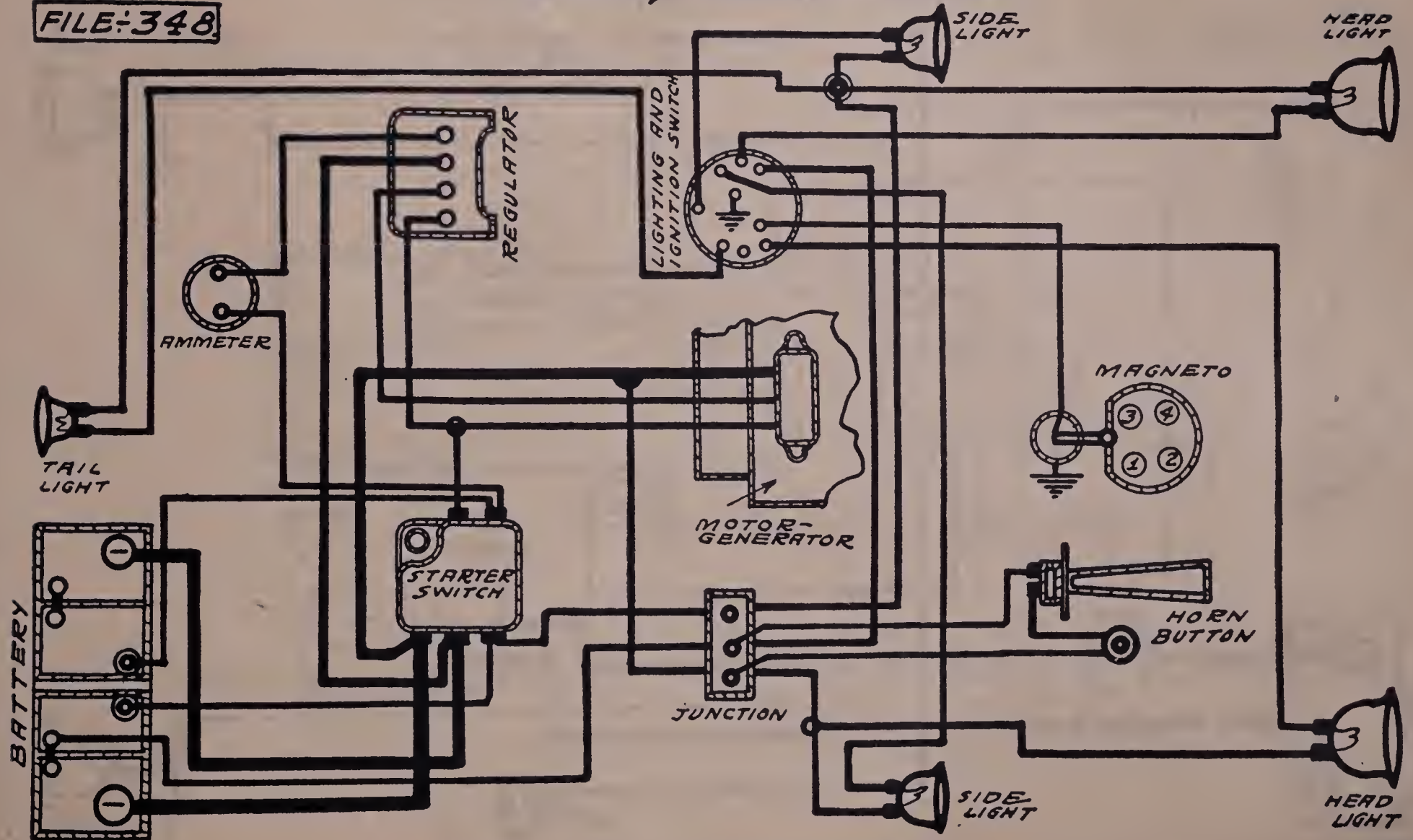
OVERLAND

1913

MODEL 69,-71.

12-VOLT, - U.S. L. SYSTEM.

FILE:348



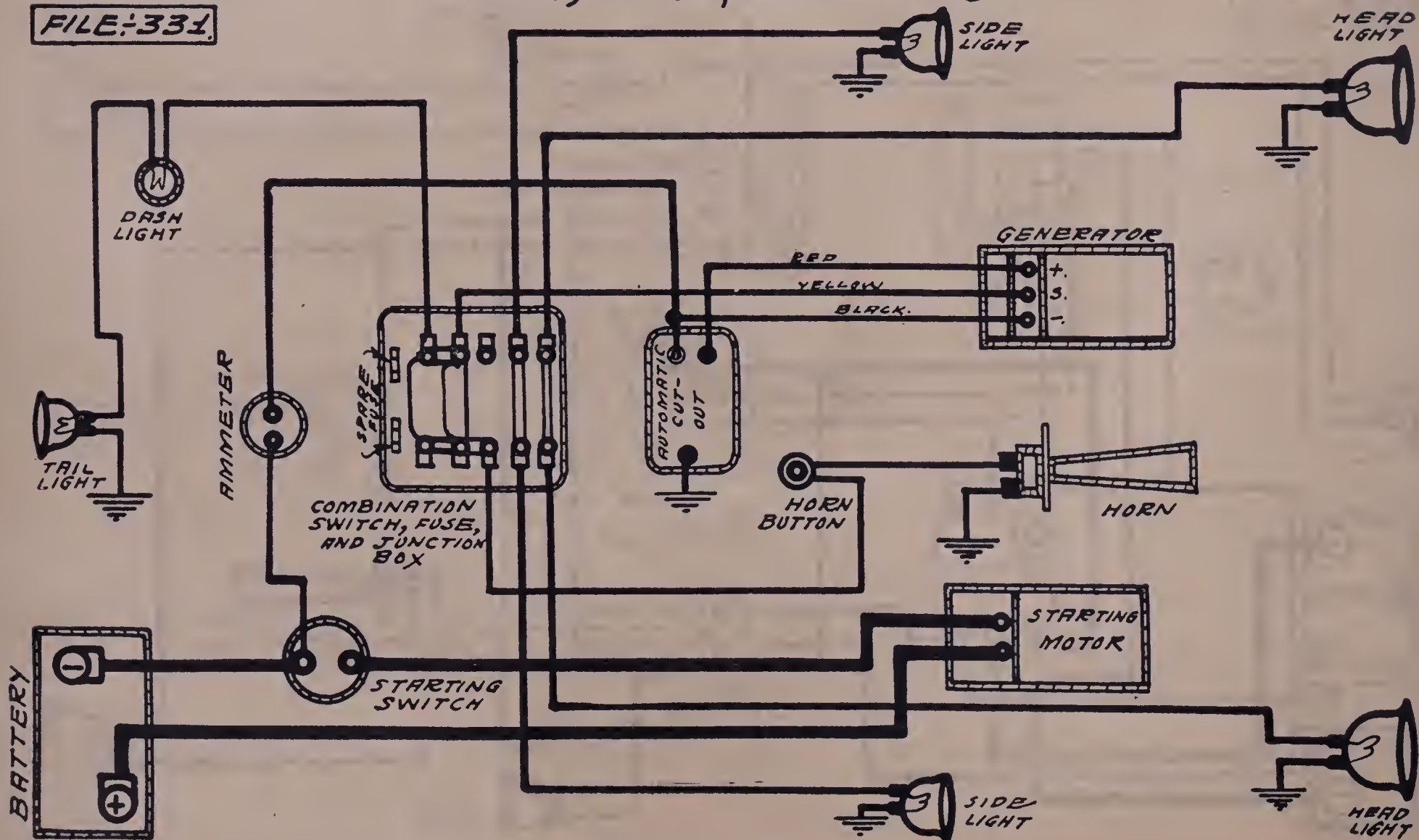
OVERLAND

1914

MODEL 79-B.

6-VOLT, GRAY & DAVIS SYSTEM.

FILE: 331

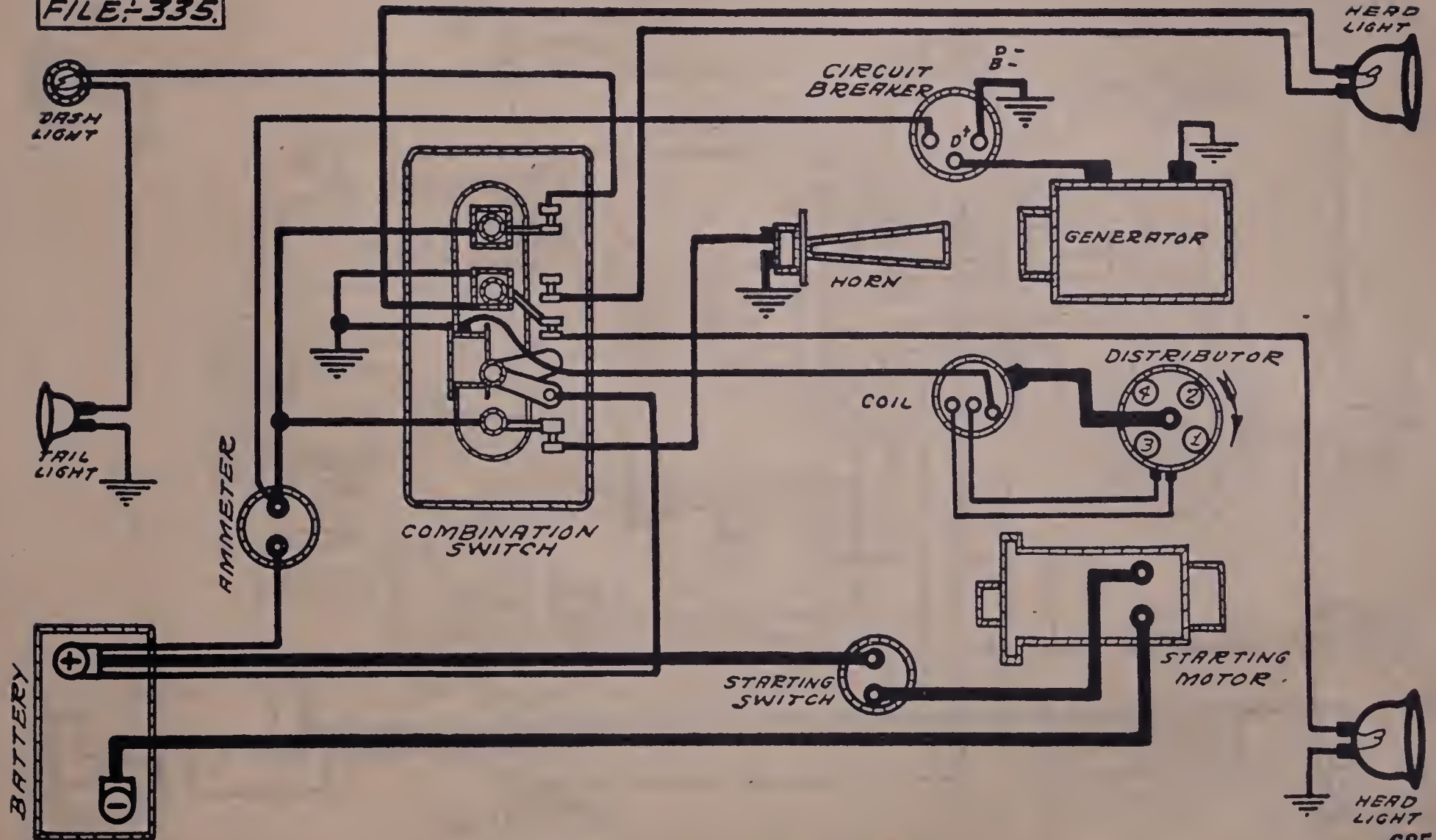


OVERLAND

1915

MODEL 75-LD, T.
6-VOLT, AUTOLITE SYSTEM.

FILE: 335.

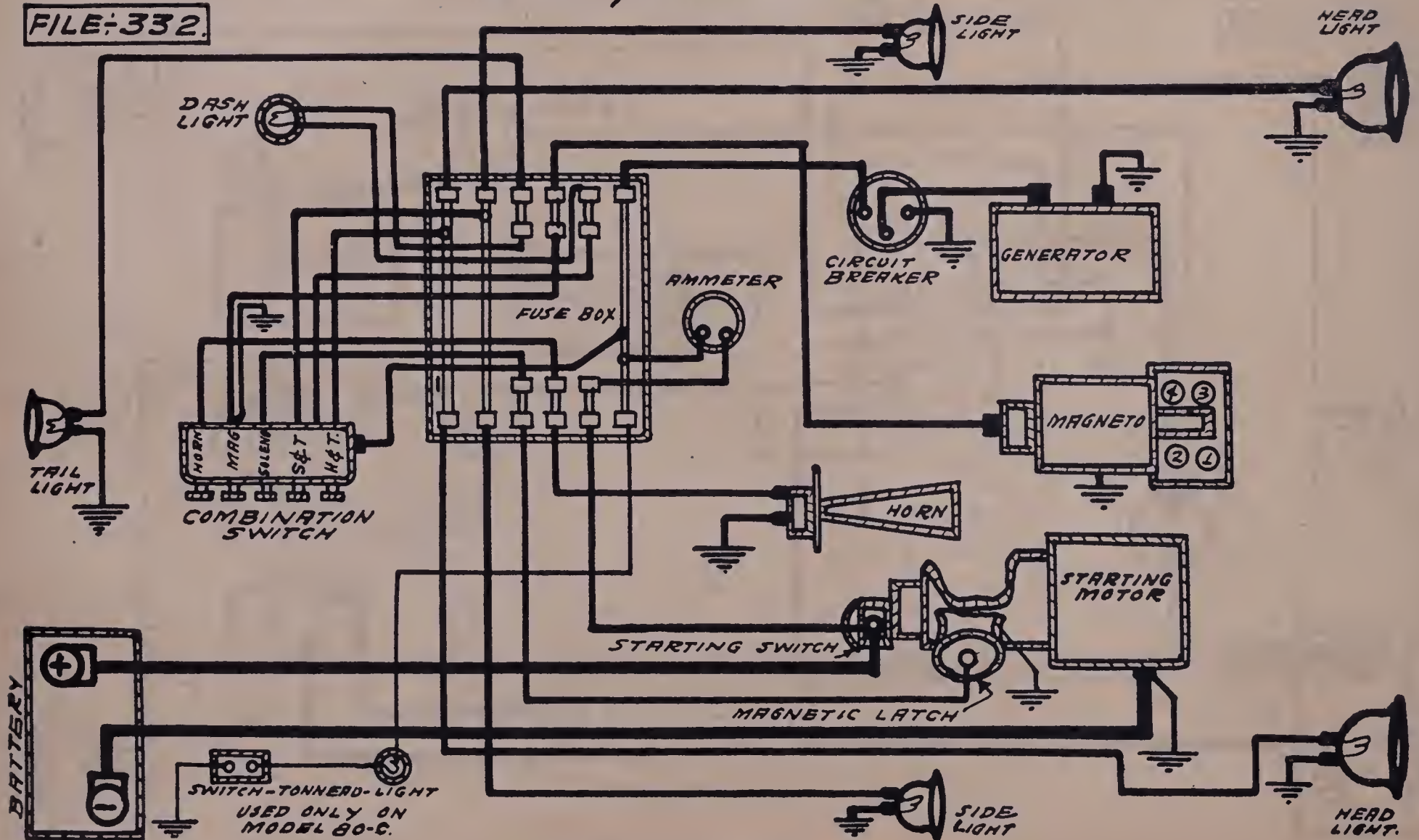


OVERLAND

1915.

MODEL 80-C, -R, -T.
6-VOLT, AUTOLITE SYSTEM.

FILE-332.



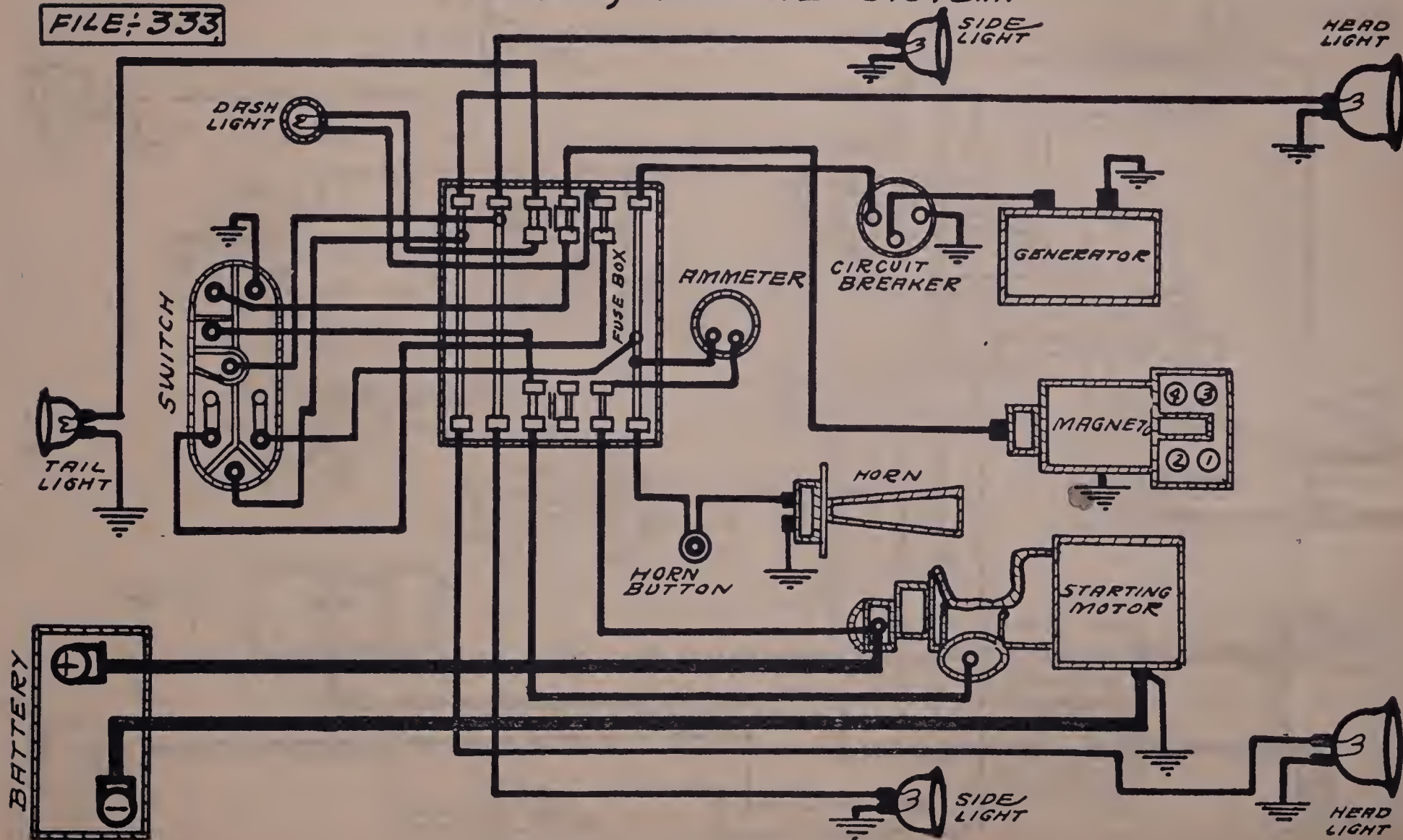
1915

OVERLAND

MODEL 81-LD,-R,-T.

6-VOLT, AUTOLITE SYSTEM.

FILE: 333



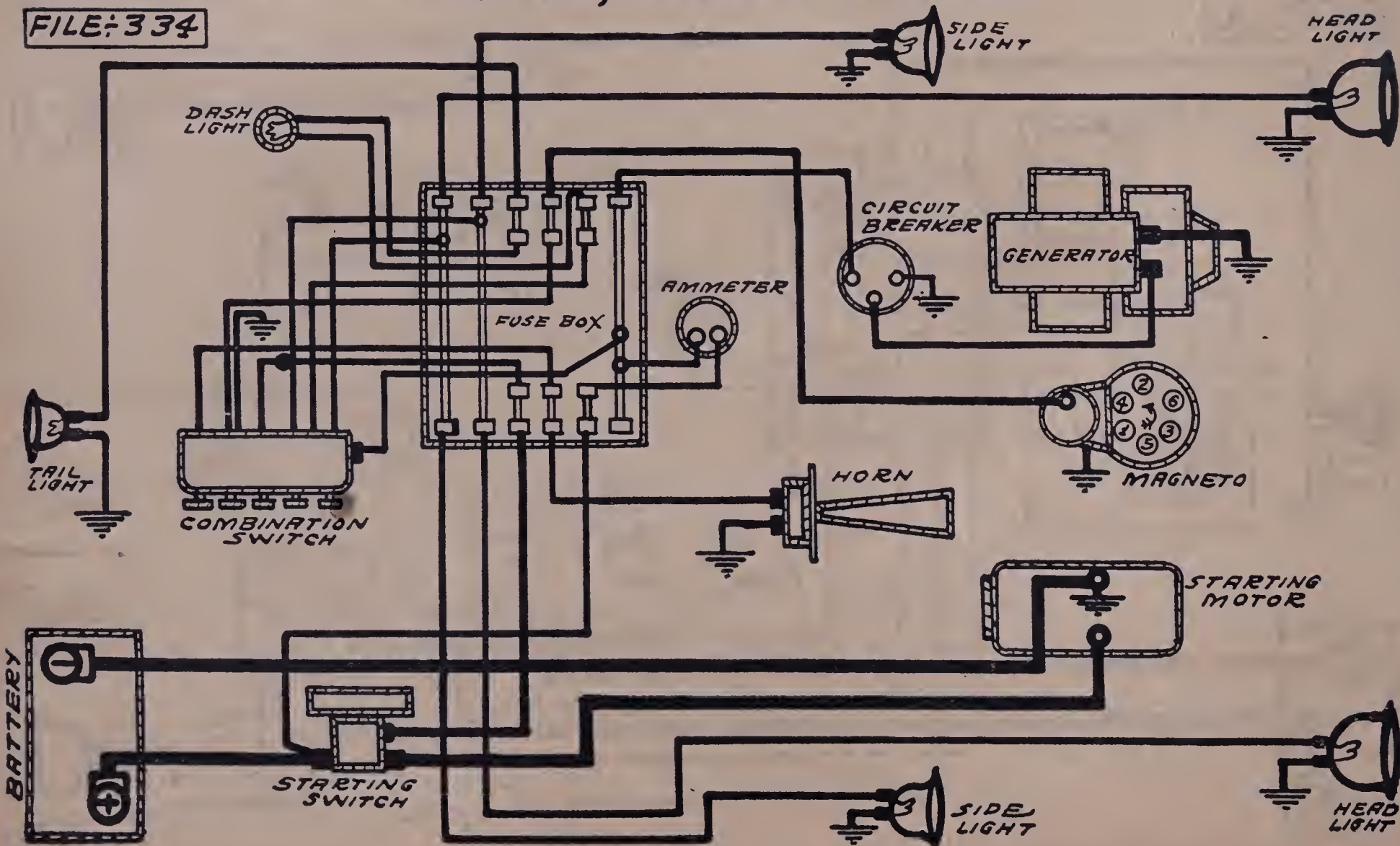
OVERLAND

1915 MODEL-82.

1916-MODEL-86.

6-VOLT,- AUTOLITE SYSTEM.

FILE: 334

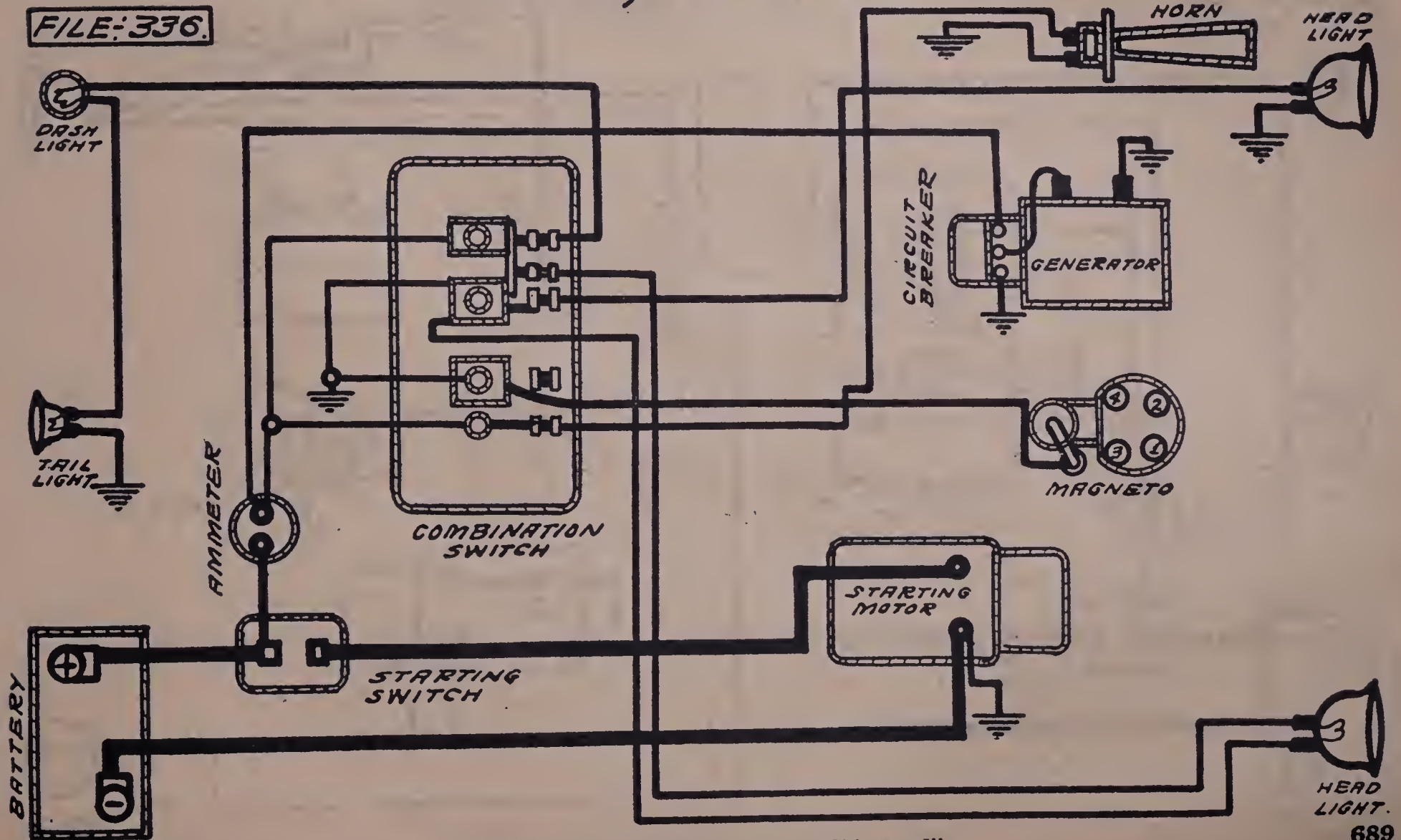


OVERLAND

1916.

MODEL 83 BDE
6-VOLT, AUTOLITE SYSTEM.

FILE: 336.

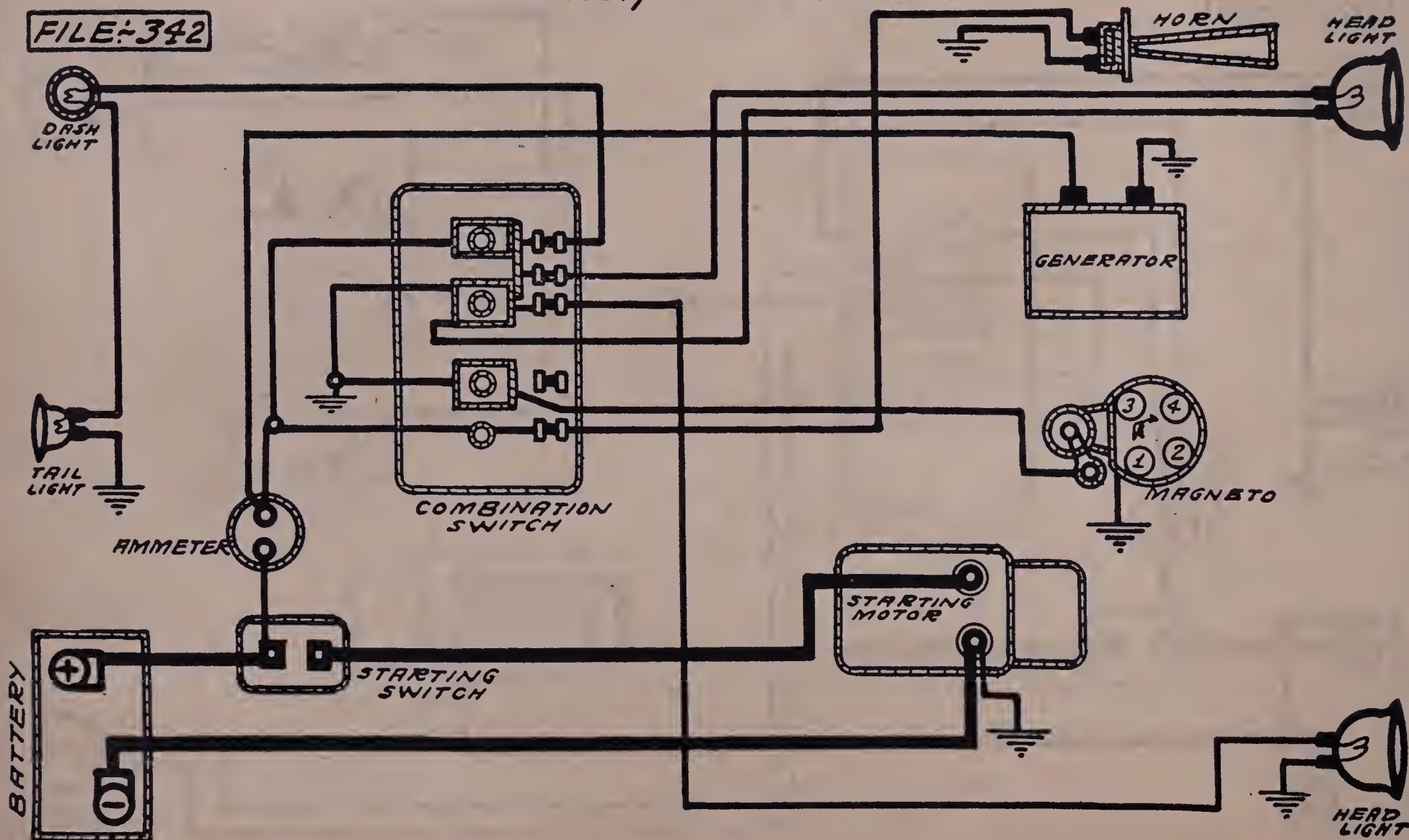


1916.

OVERLAND

MODEL-83; B, -BD, E, EX, -R, T.
6-VOLT, AUTOLITE SYSTEM.

FILE-342

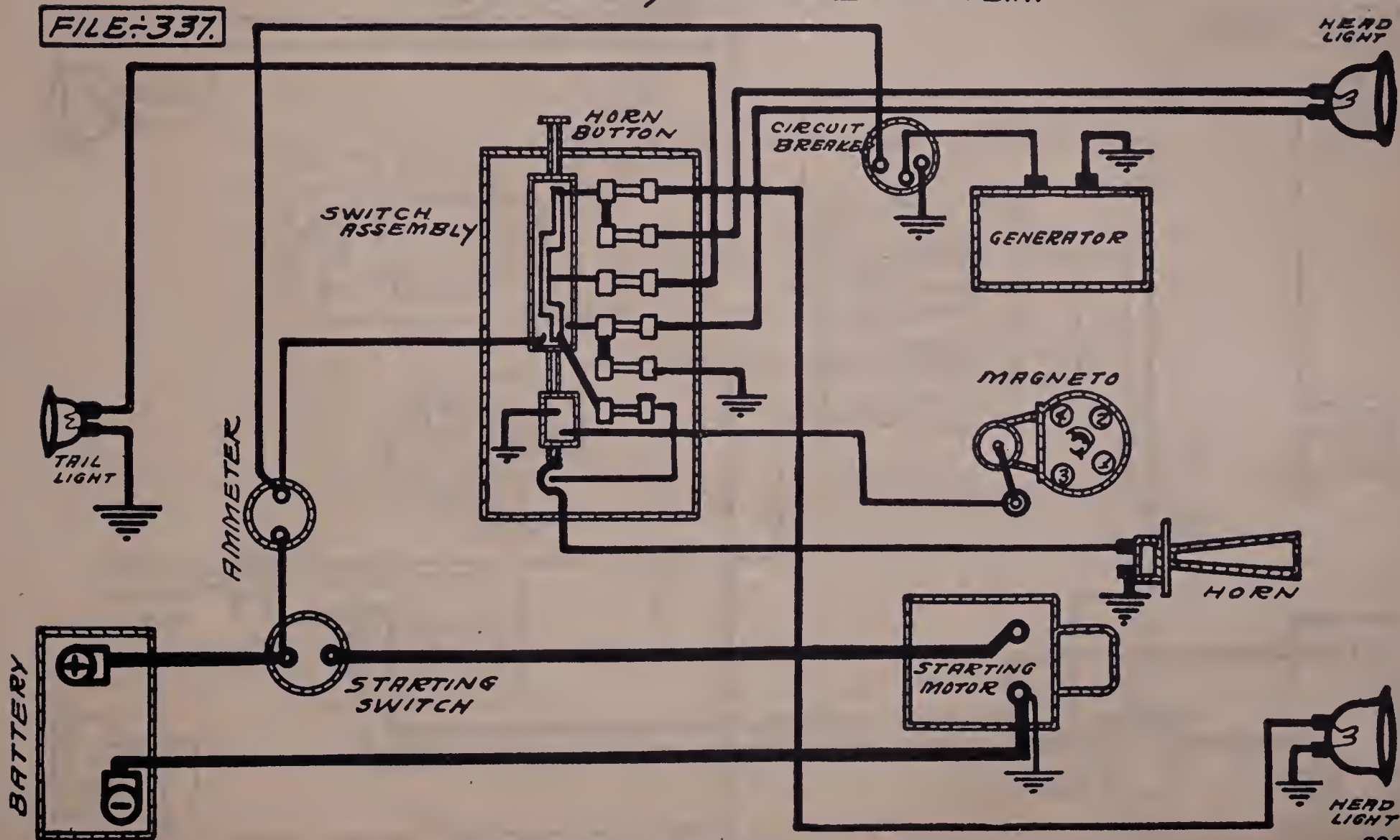


OVERLAND

1916

MODEL 83-EX, LD, R, T.

6-VOLT, AUTOLITE SYSTEM.



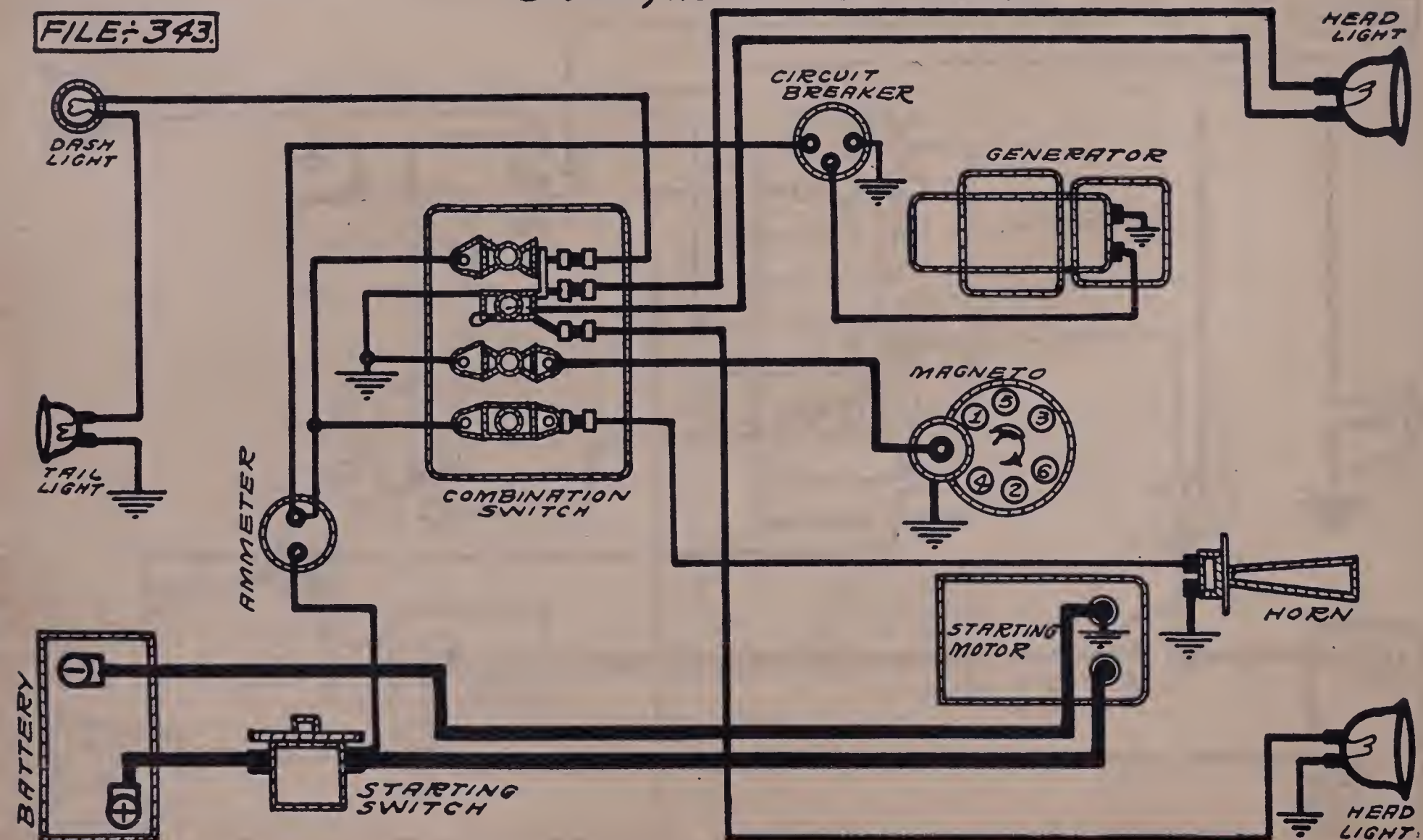
OVERLAND

1916

MODEL 86.

6-VOLT, AUTOLITE SYSTEM.

FILE: 343.



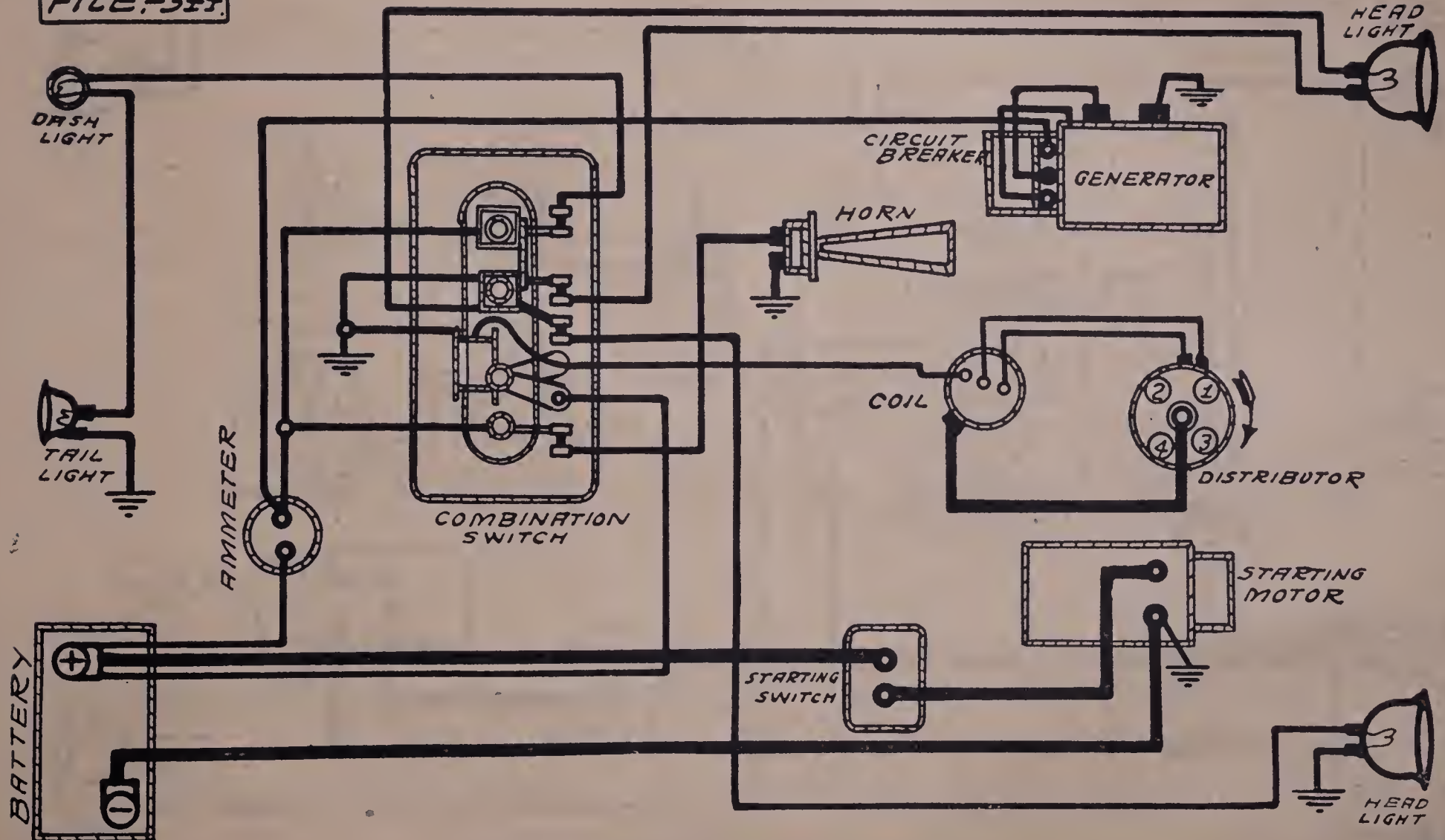
OVERLAND

1917.

MODEL-85-4,-C,-R,-SN,-T.

6-VOLT, AUTOLITE SYSTEM.

FILE:-344.



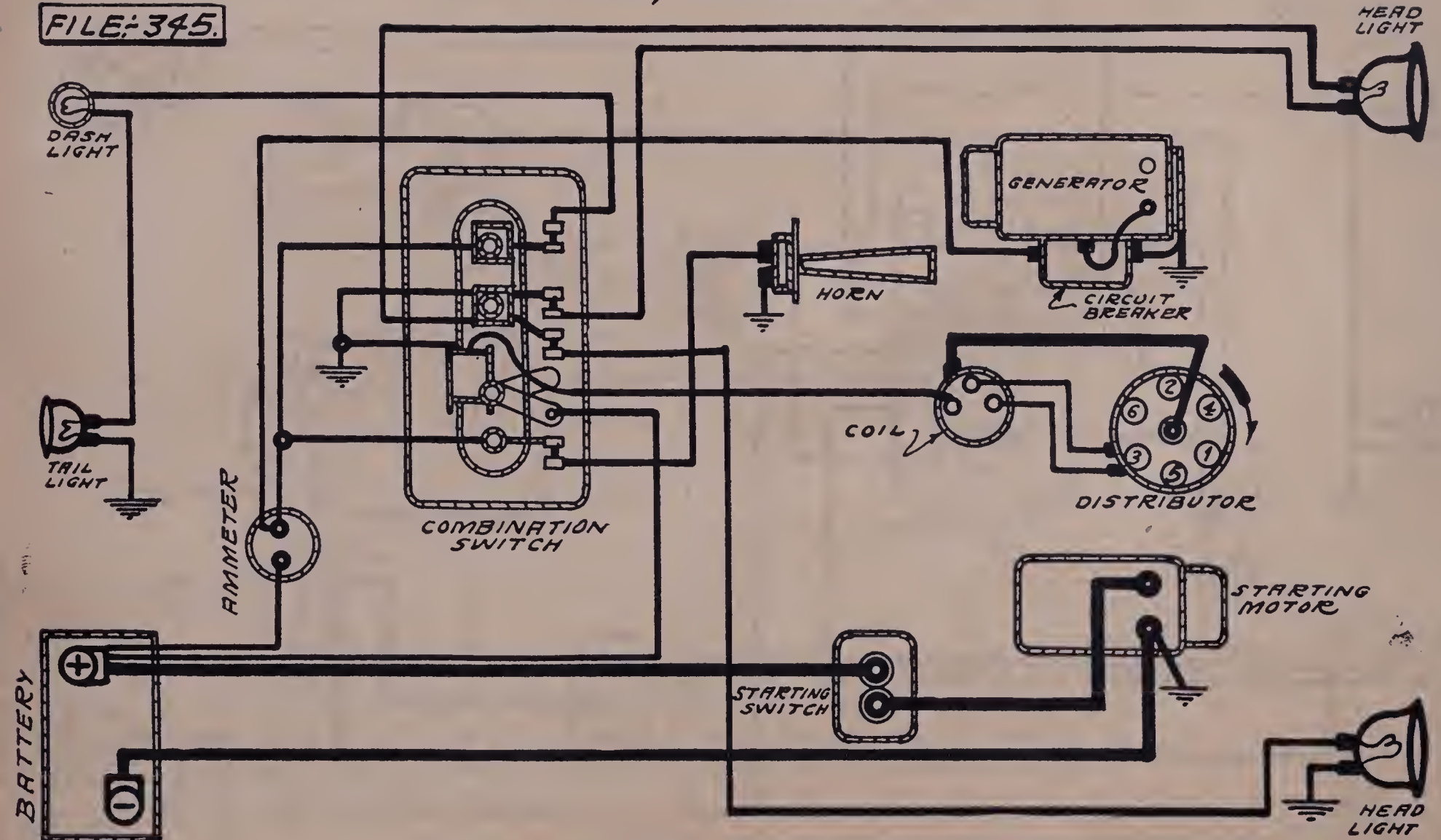
OVERLAND

1917.

MODEL 85-6,-C,-SN,-R,-T.

6-VOLT, AUTOLITE SYSTEM.

FILE: 345.



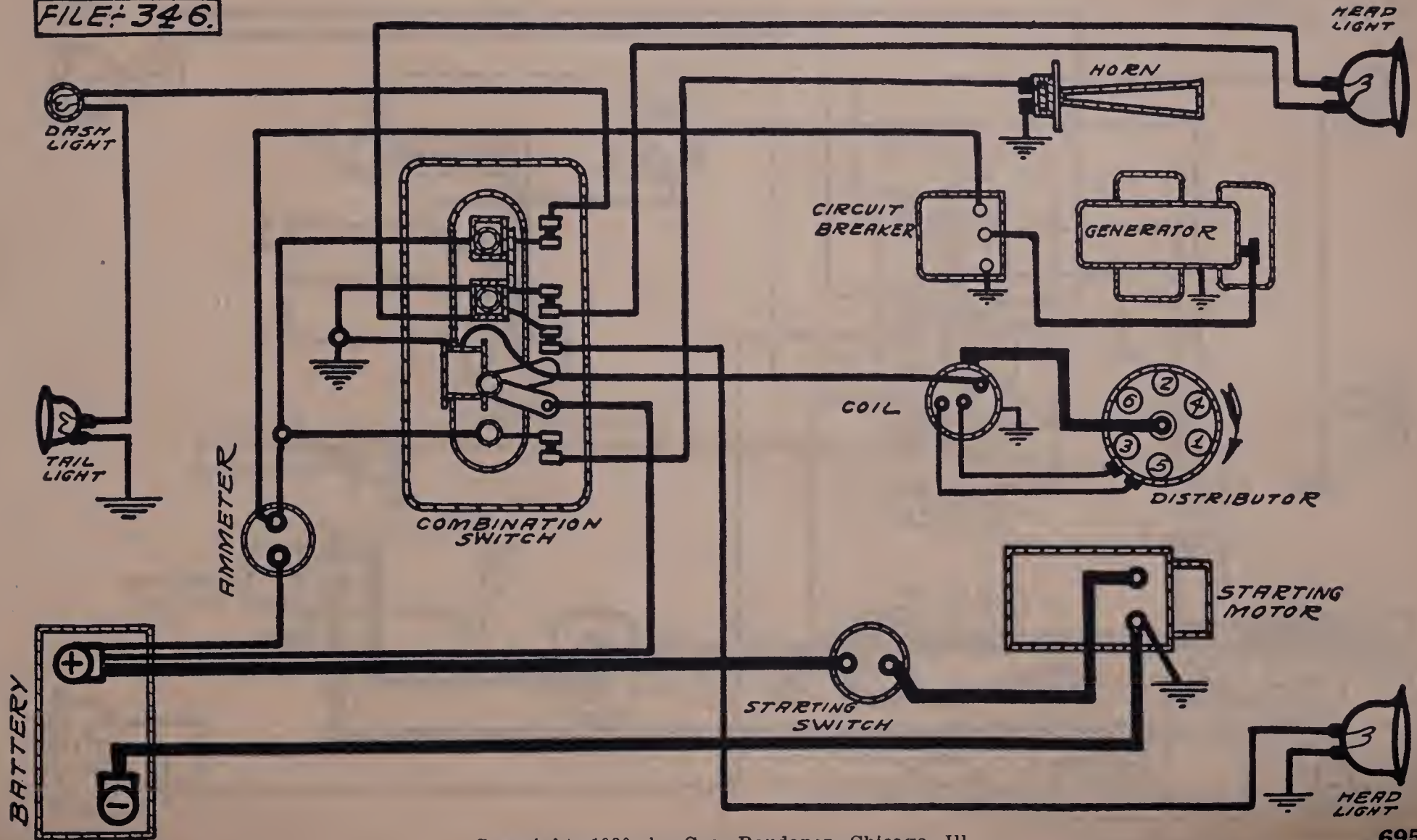
OVERLAND

1917

MODEL - 86-B.

6-VOLT, -AUTOLITE SYSTEM.

FILE: 346.



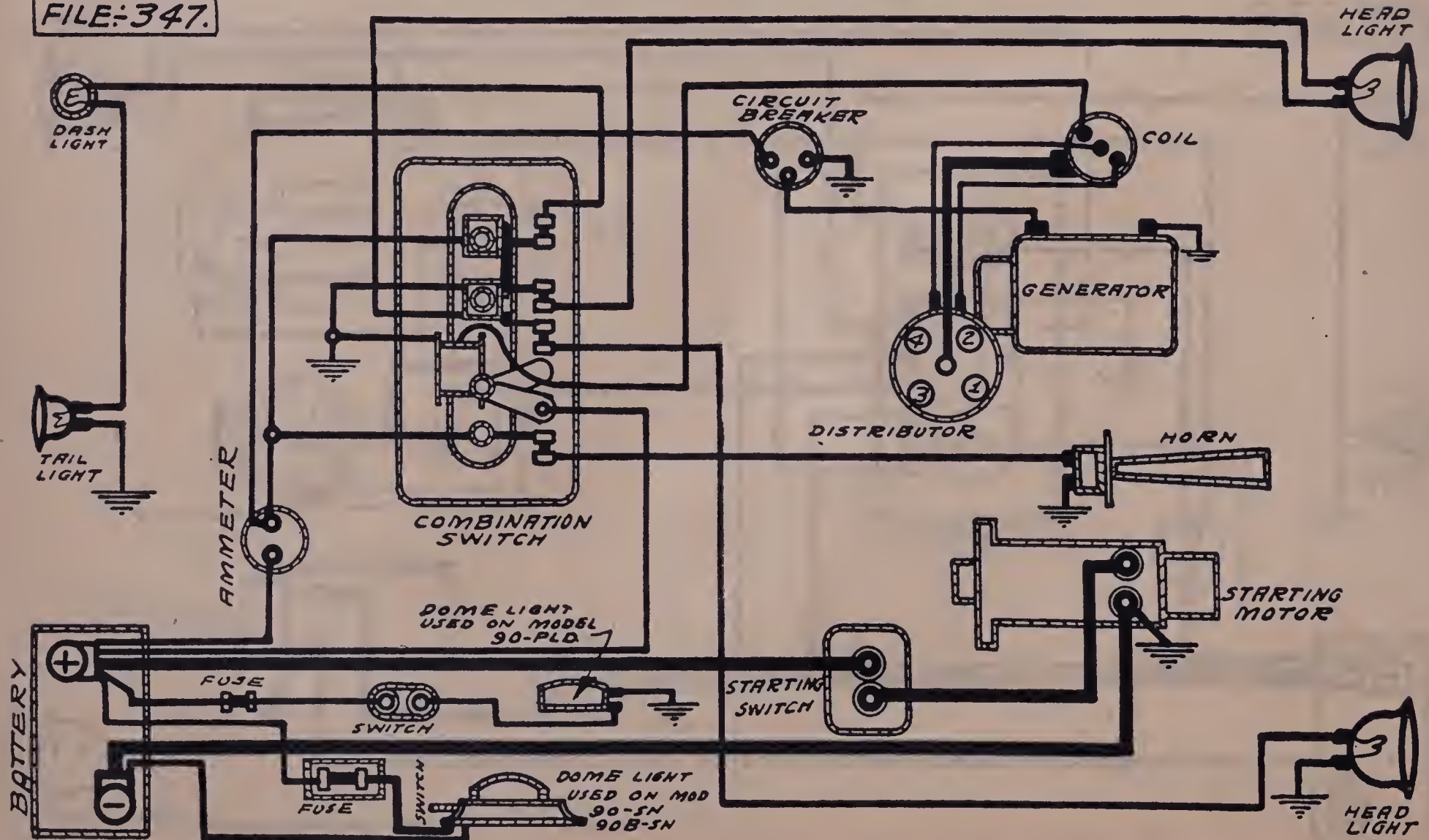
OVERLAND

1917-MODEL 90-CL, R, T.

1918-MODELS 5, -OEX, PLD, R, SN, B-SN.

6-VOLT, AUTOLITE SYSTEM.

FILE: 347.

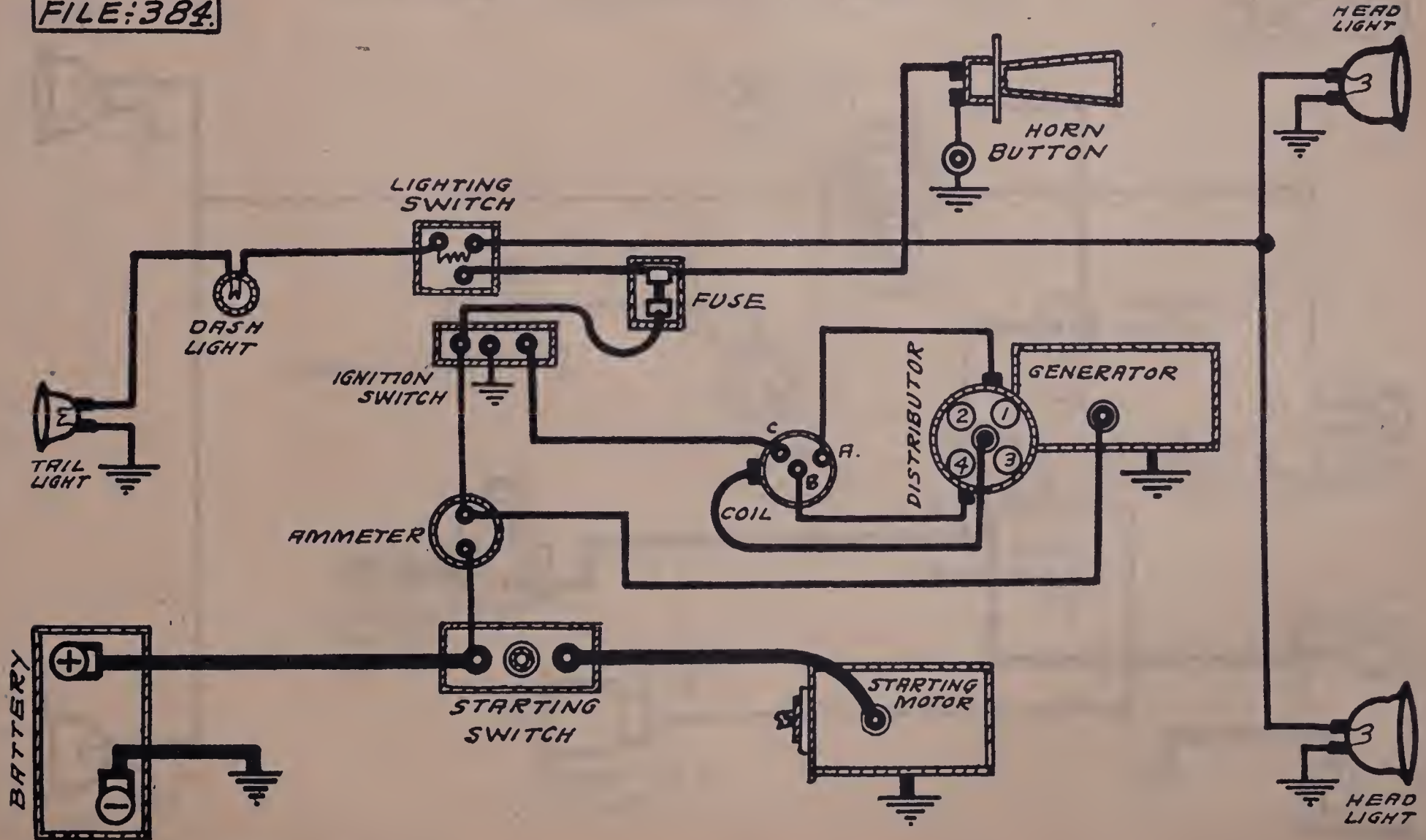


OVERLAND.

1919-1920.

MODEL-FOUR
6-VOLT, -AUTOLITE SYSTEM.

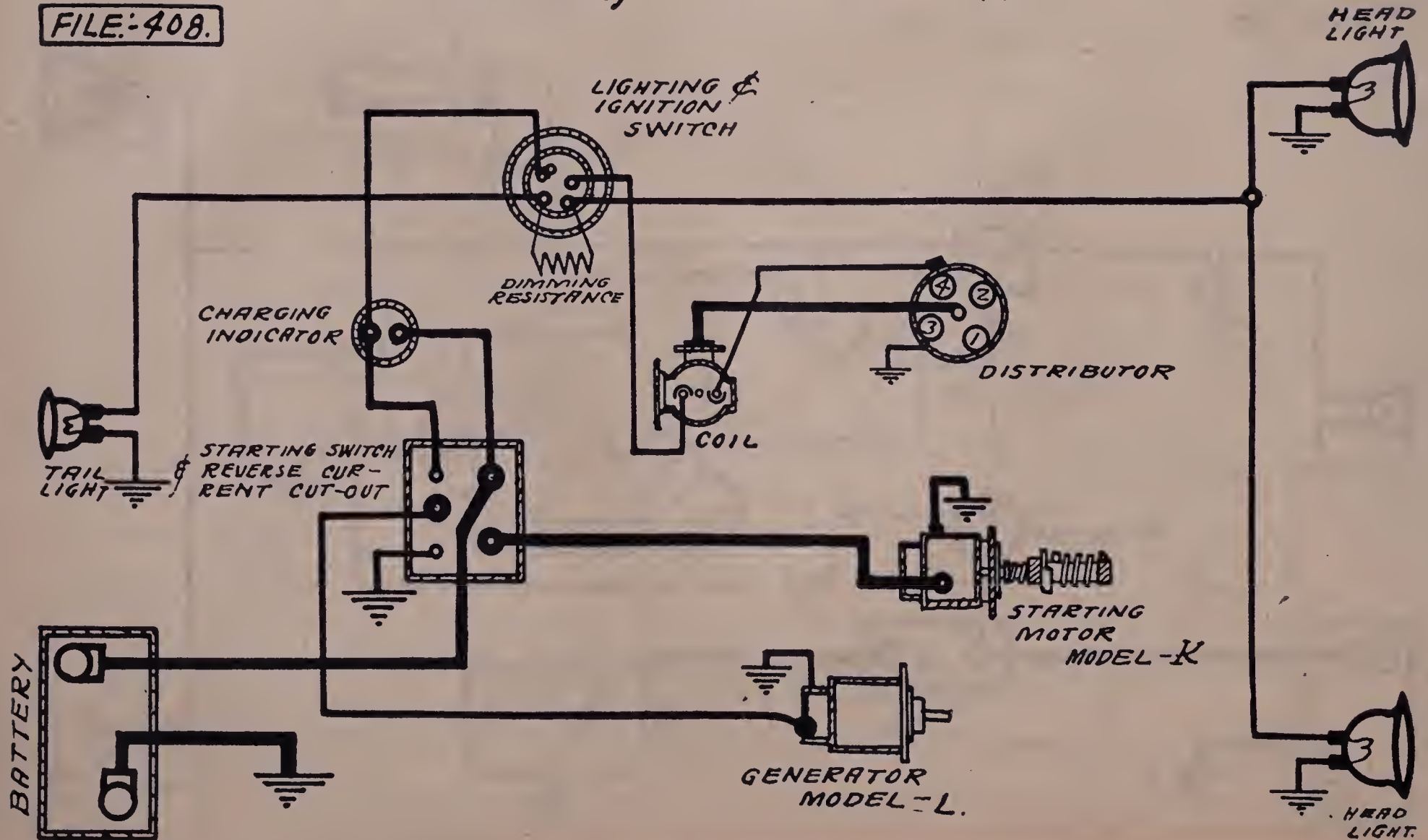
FILE:384.



OSHKOSH 4 WHEEL DRIVE TRUCK.-

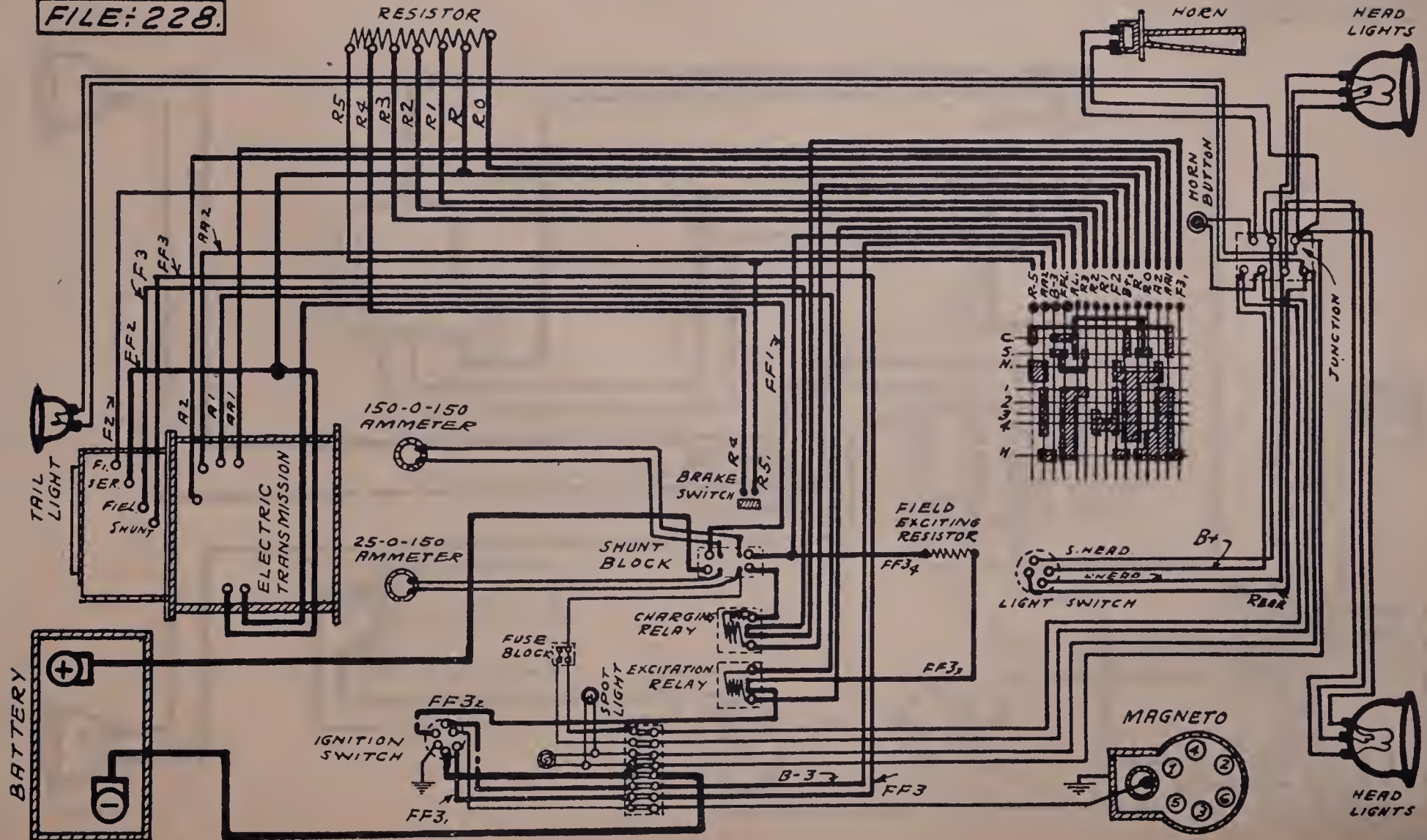
6-VOLT,- NORTH EAST SYSTEM.

FILE:-408.



OWEN-MAGNETIC W-42 MODELS 24-VOLT, OWEN-MAGNETIC SYSTEM.

FILE: 228.



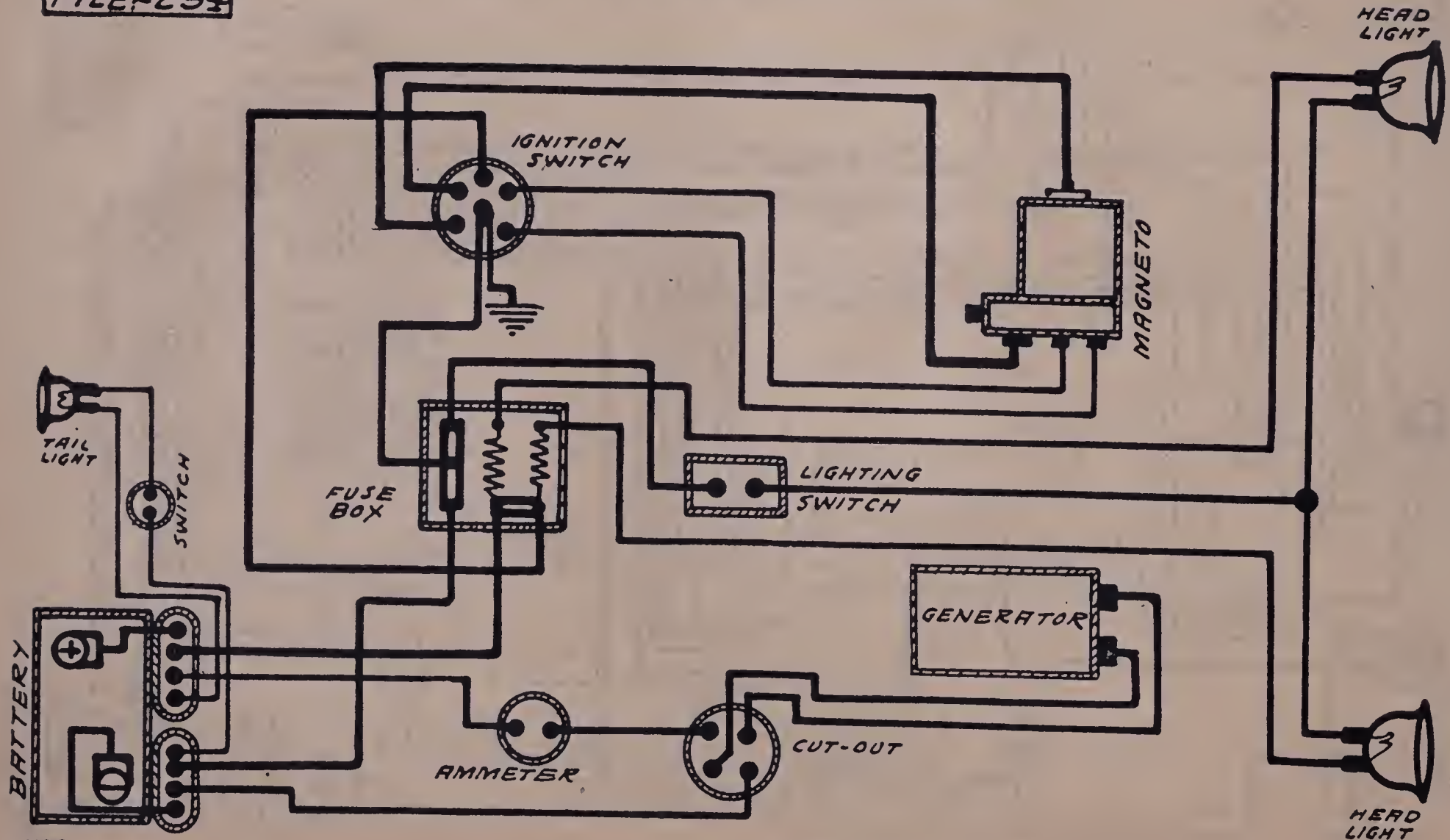
PACKARD

1913

MODEL 2-48.

6-VOLT, BIJUR • SYSTEM.

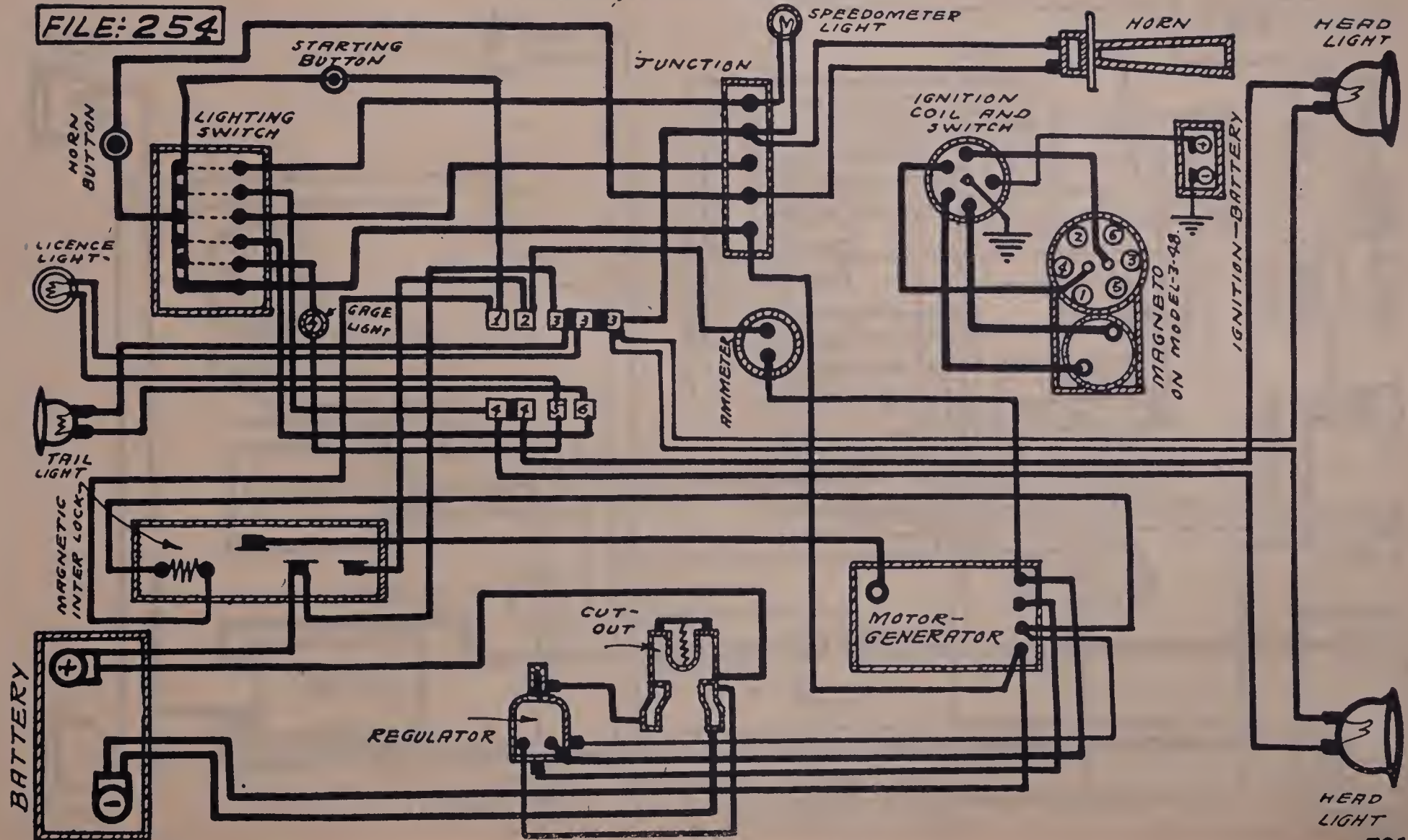
FILE-254



PACKARD

1914

6-VOLT, -BIJUR SYSTEM.



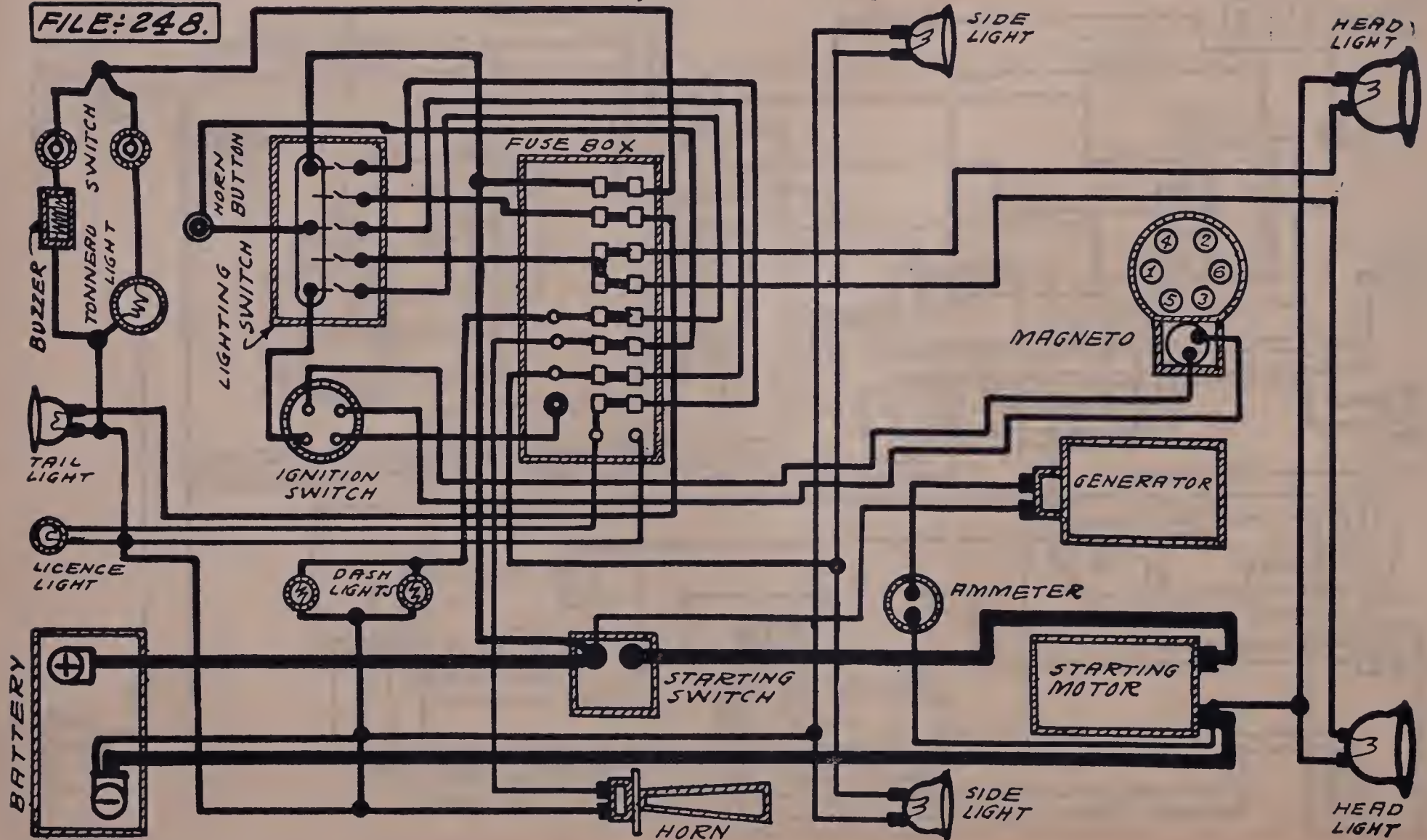
PACKARD

1914

MODEL 2-38, 4-48.

6-VOLT, BITUR SYSTEM.

FILE: 248.

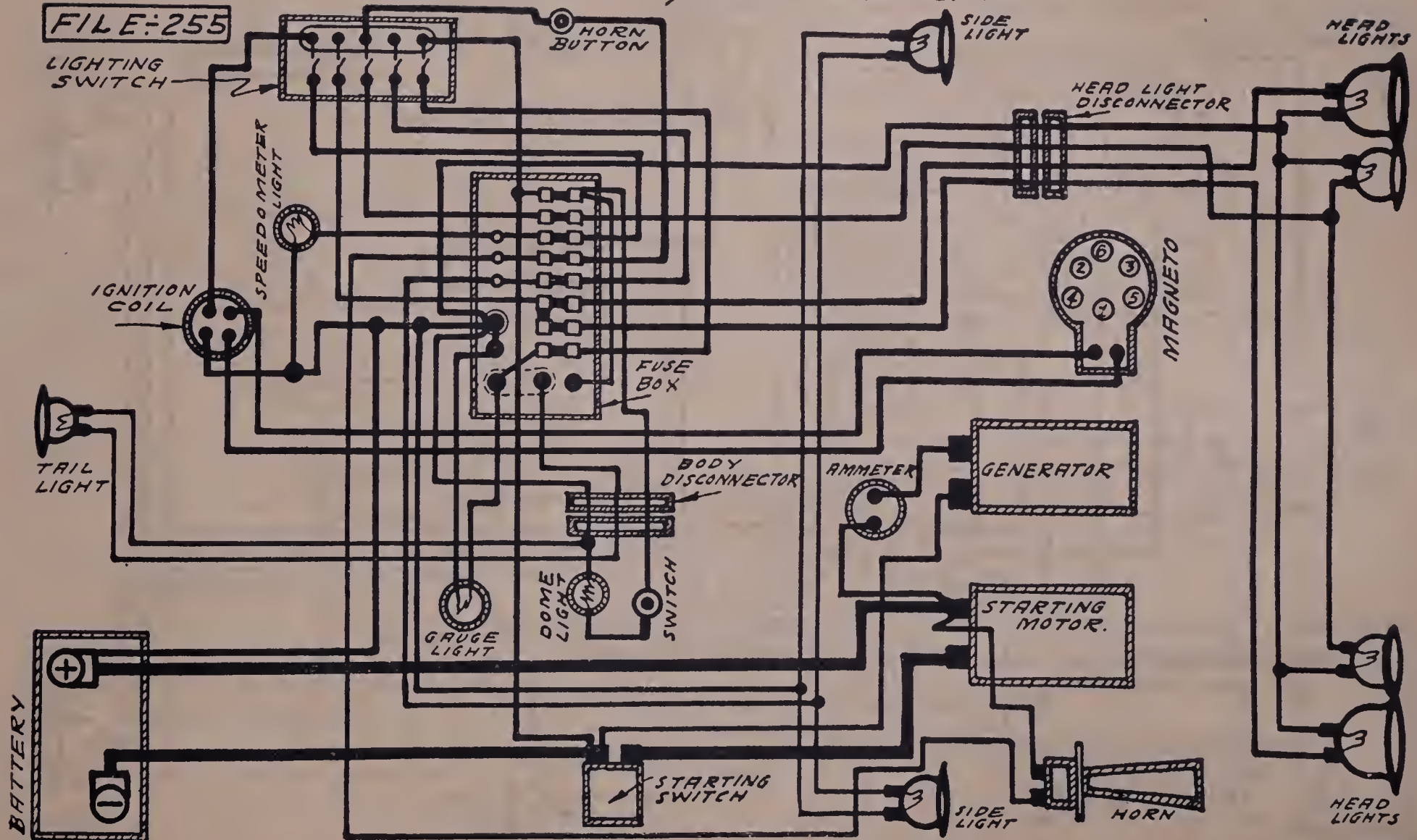


PACKARD

1915

MODEL - 338,-548

6-VOLT, BIJUR SYSTEM.



PACKARD

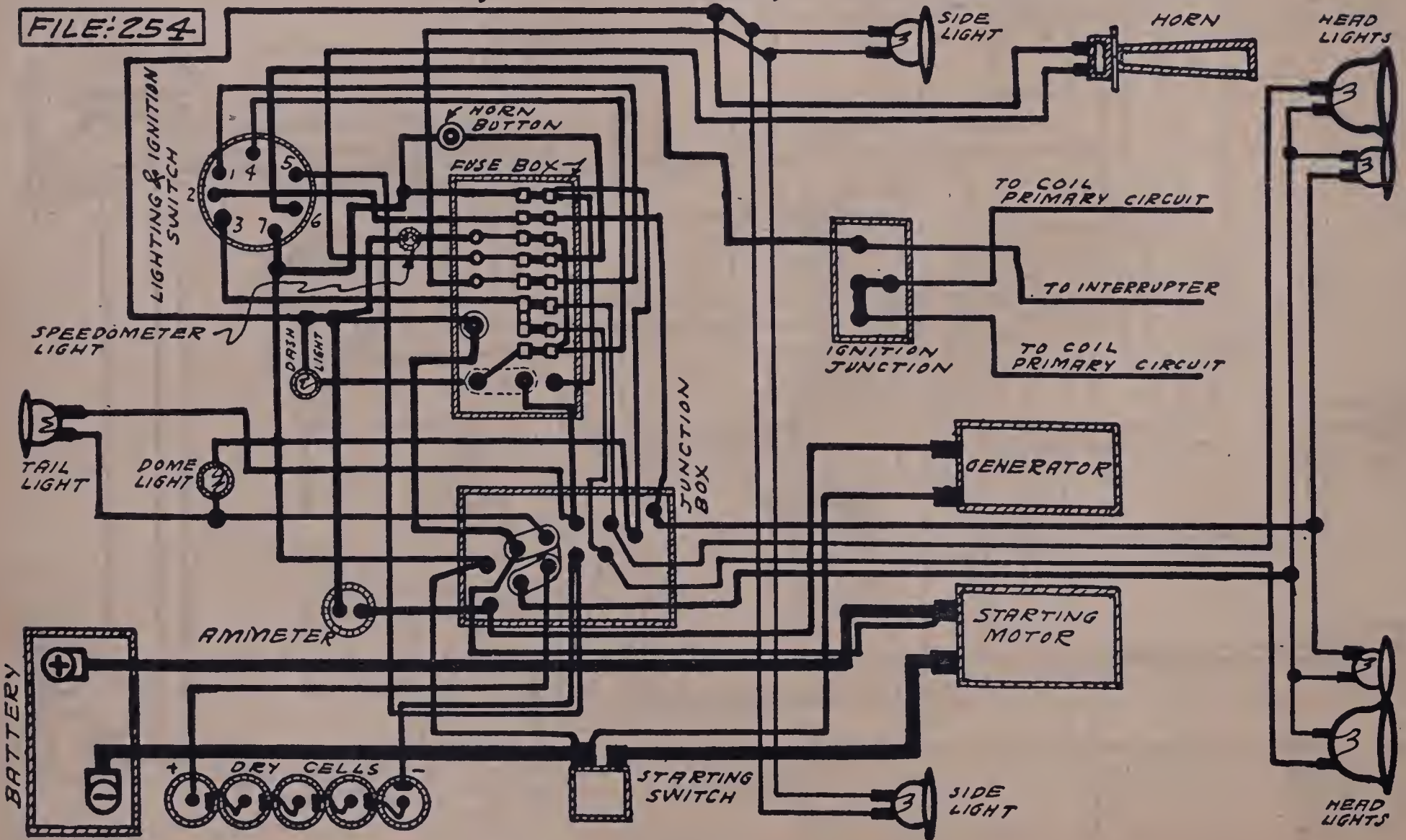
1916

FIRST SERIES

MODEL 125-135

6-VOLT, -BIJUR SYSTEM, - DELCO IGNITION SYSTEM.

FILE: 254



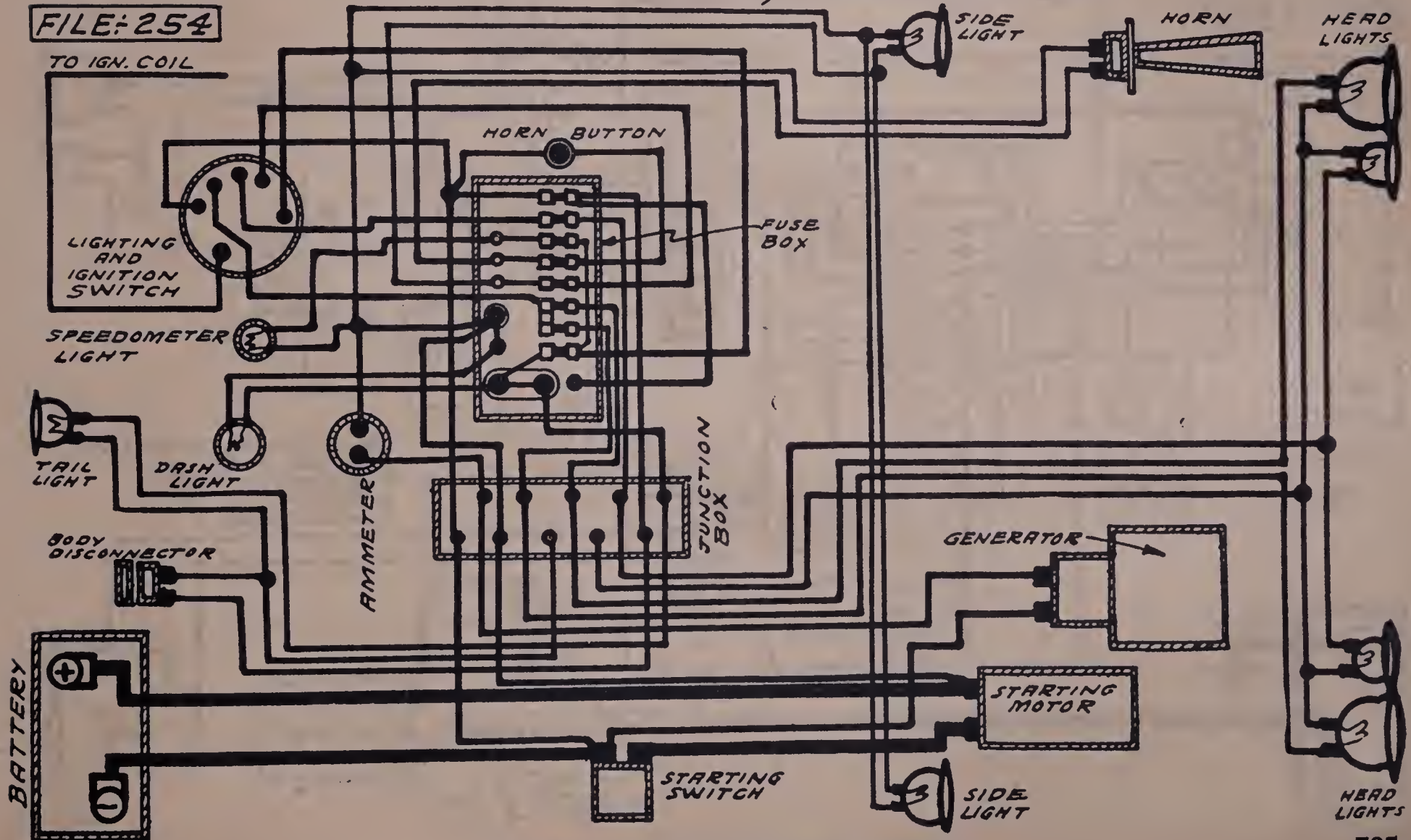
PACKARD

1917-1918.

SECOND SERIES

MODEL 225; 235.

6-VOLT, -BIJUR SYSTEM, - DELCO SYSTEM.



PACKARD

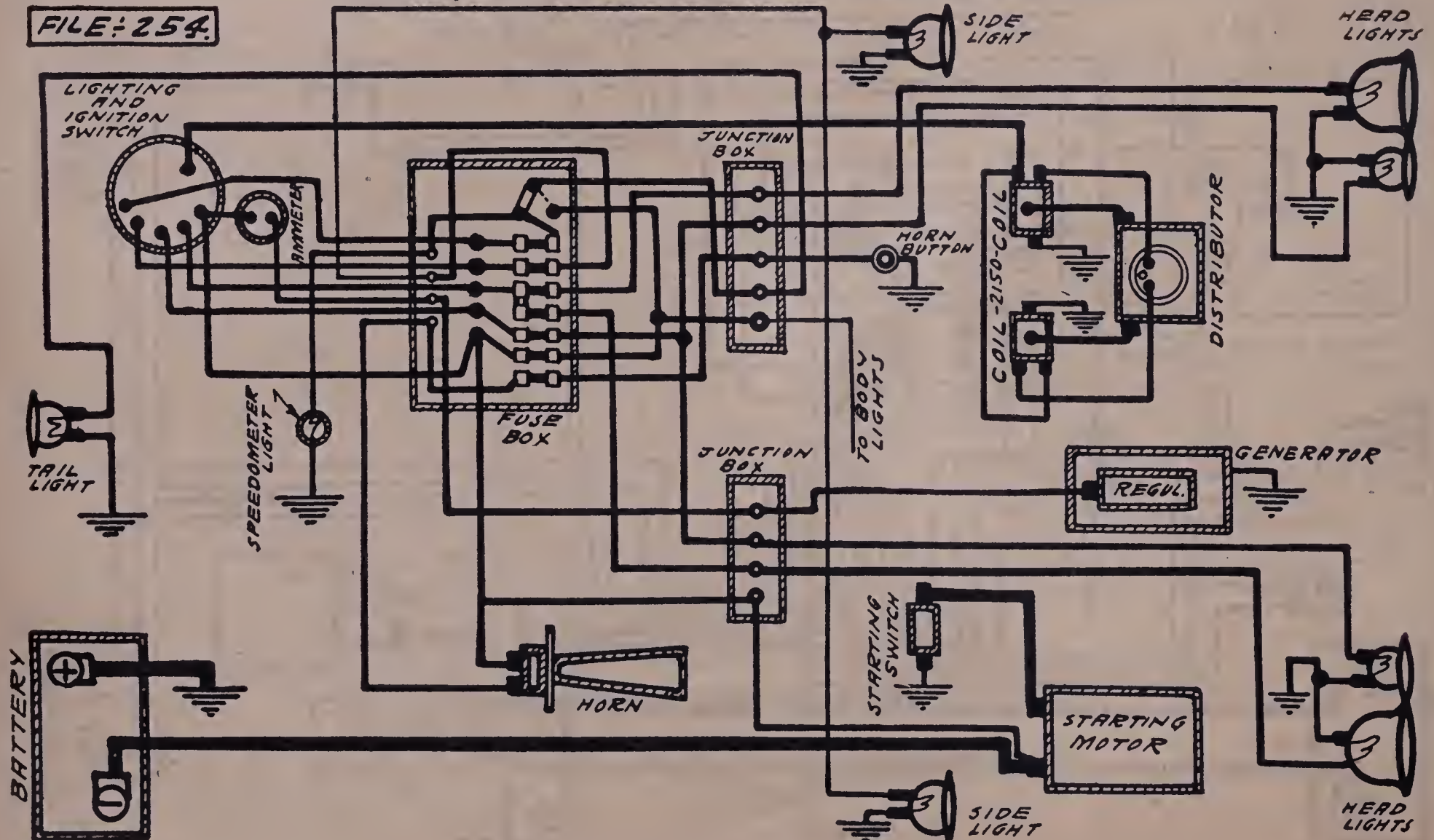
1918; 1919, 1920

3RD SERIES.

MODEL 325, 335

6-VOLT, -BIJUR SYSTEM = DELCO IGNITION

FILE: 254.

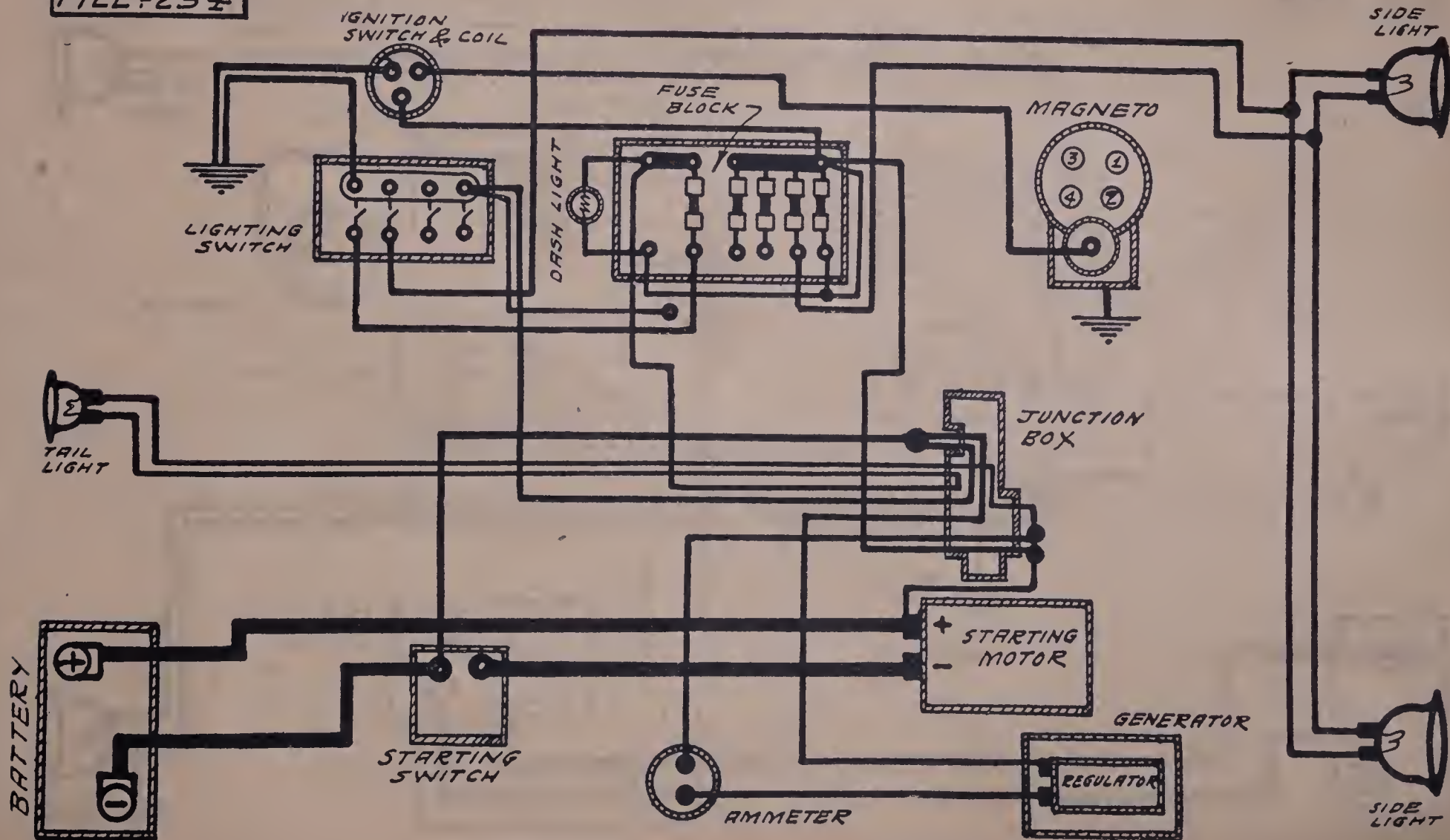


1918-1919.

PACKARD TRUCK

MODEL D, E.
6-VOLT, BIJUR SYSTEM.

FILE-254



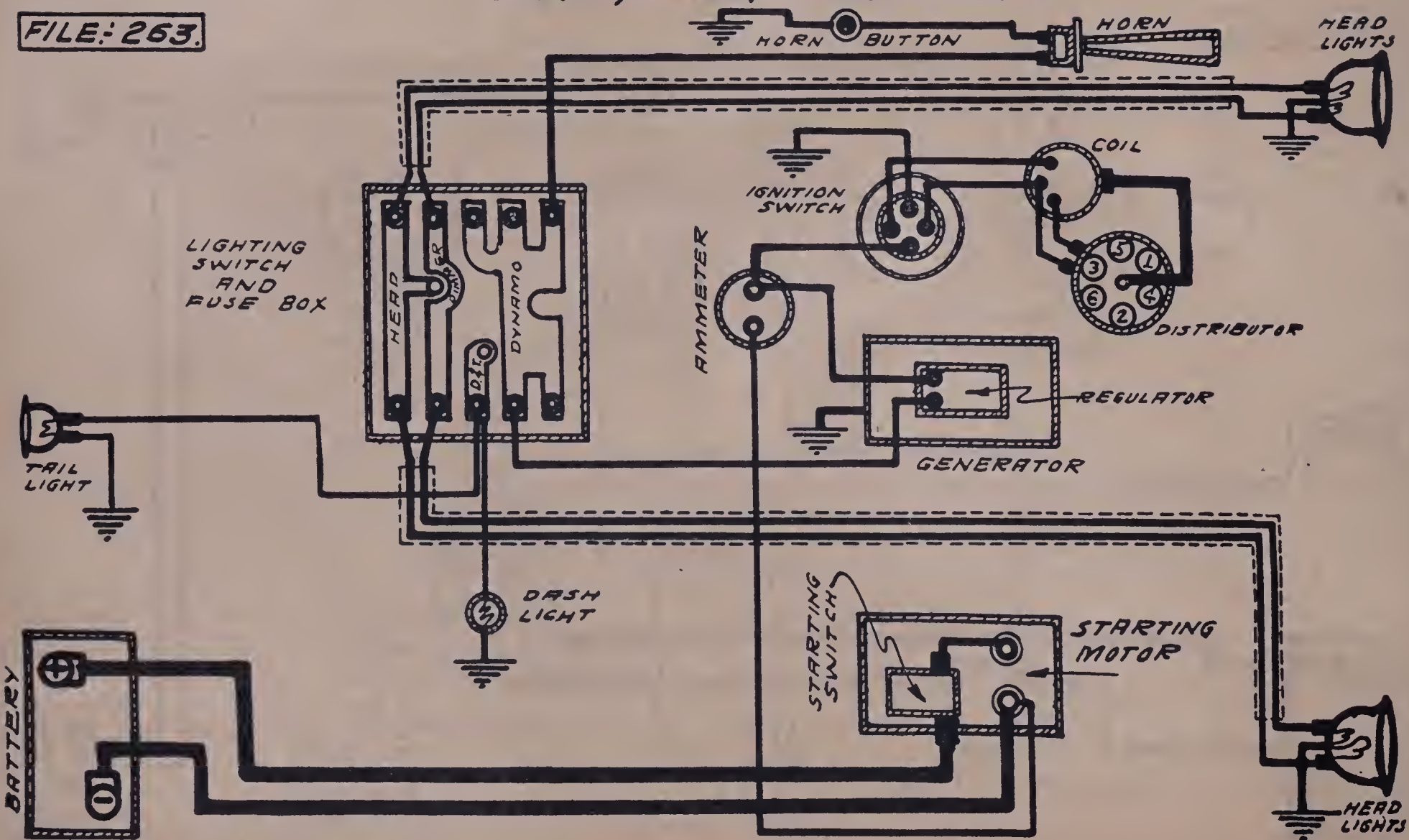
1916

PAIGE

MODEL G-6,
6-VOLT, GRAY & DAVIS SYSTEM.

FILE: 263.

LIGHTING
SWITCH
AND
FUSE BOX



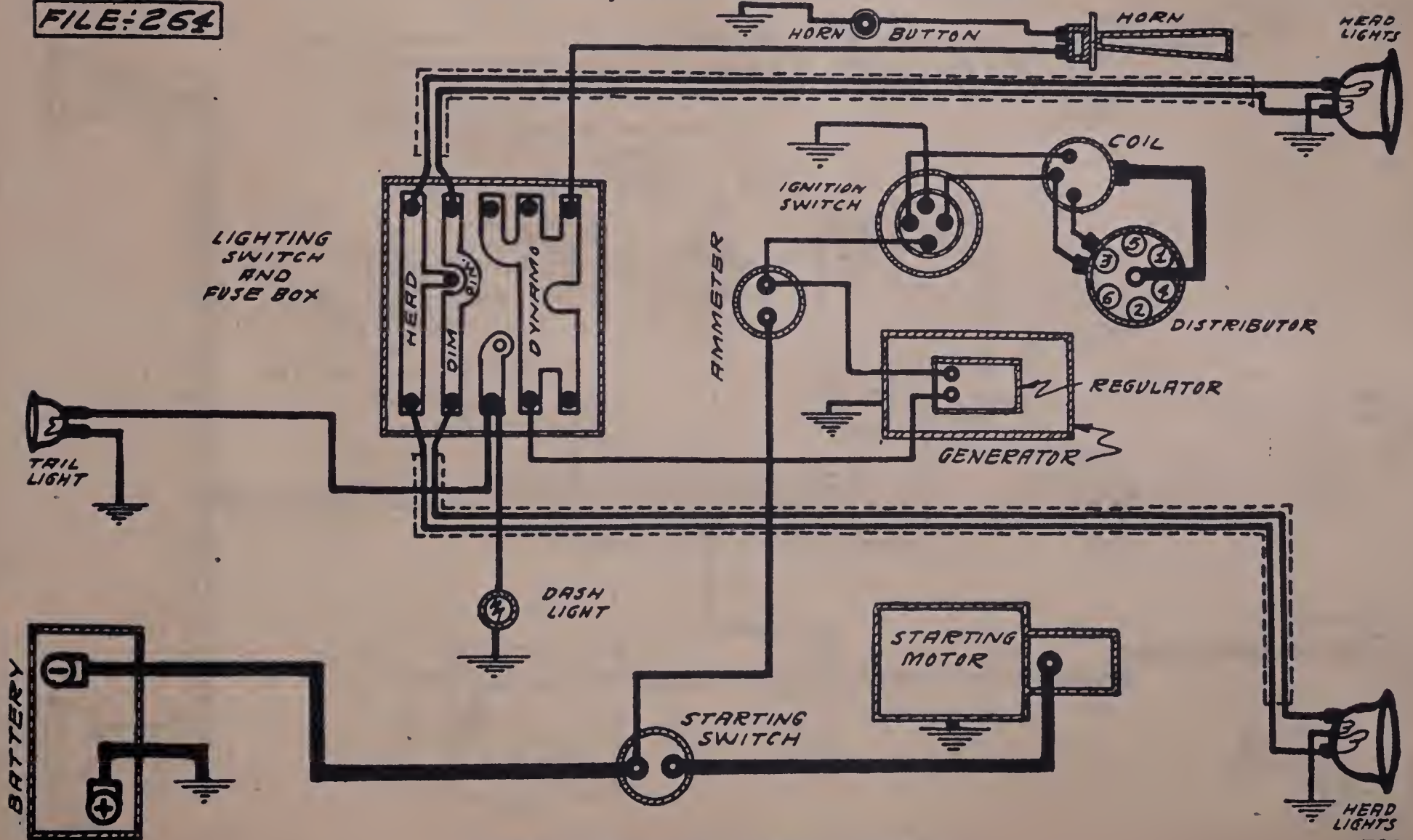
PAIGE

1916-1917.

MODEL H-6.

6-VOLT, GRAY & DAVIS SYSTEM.

FILE: 264



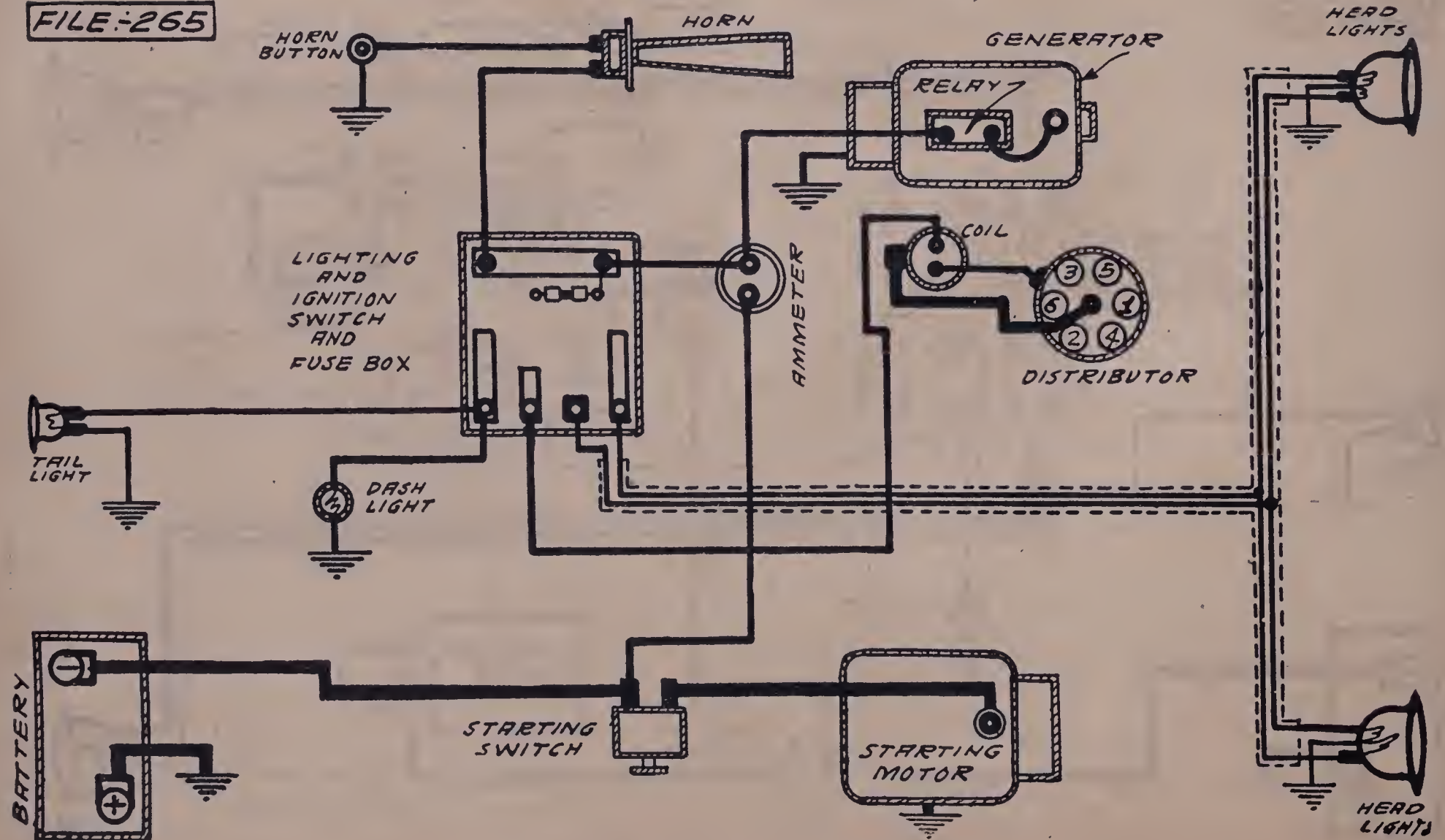
PAIGE

1917-1918

MODEL M-18.

6-VOLT, REMY SYSTEM.

FILE:265



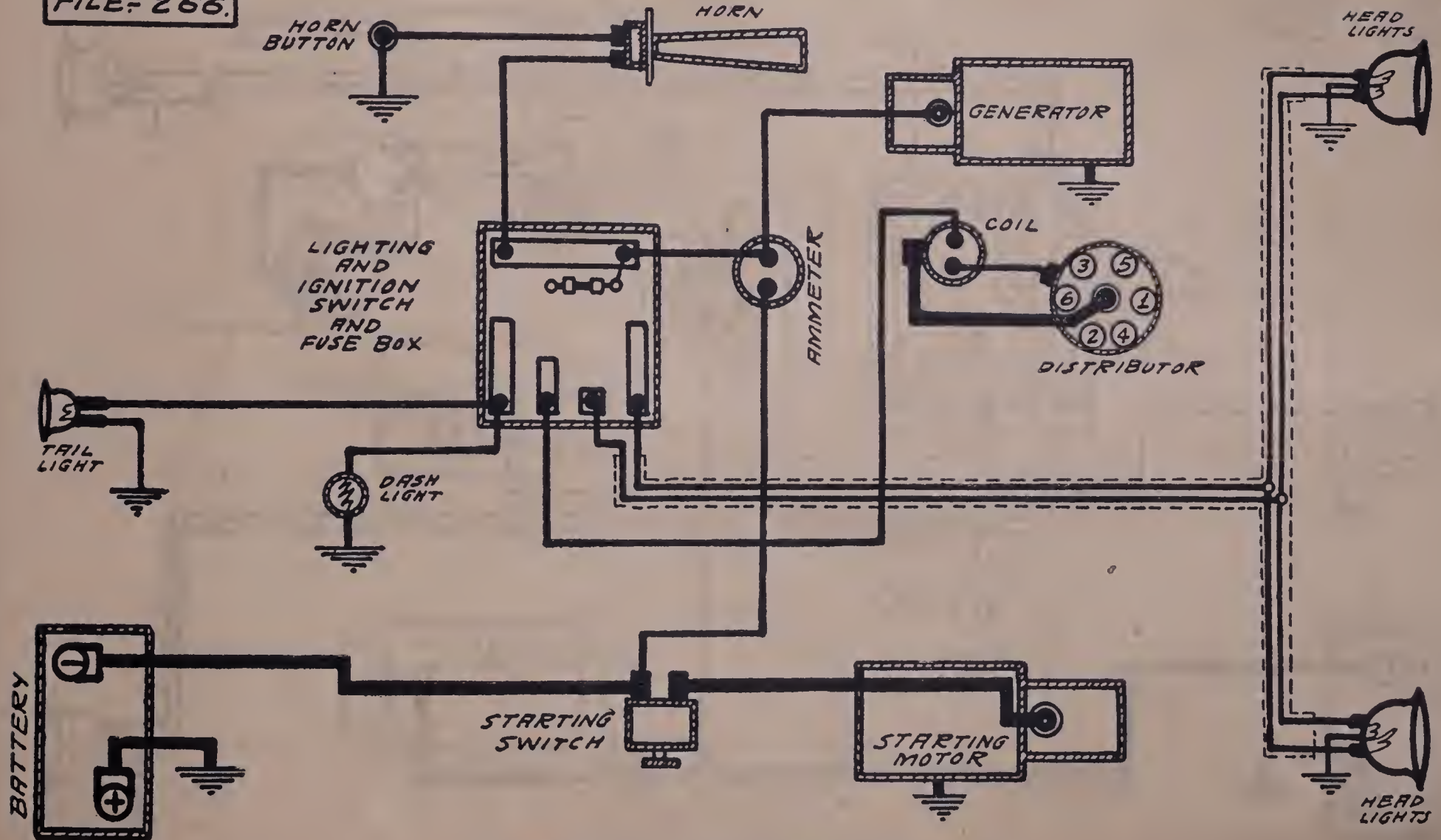
PAIGE

1917-1918

MODEL R-18.

6-VOLT, GRAY & DAVIS SYSTEM.

FILE: 266.



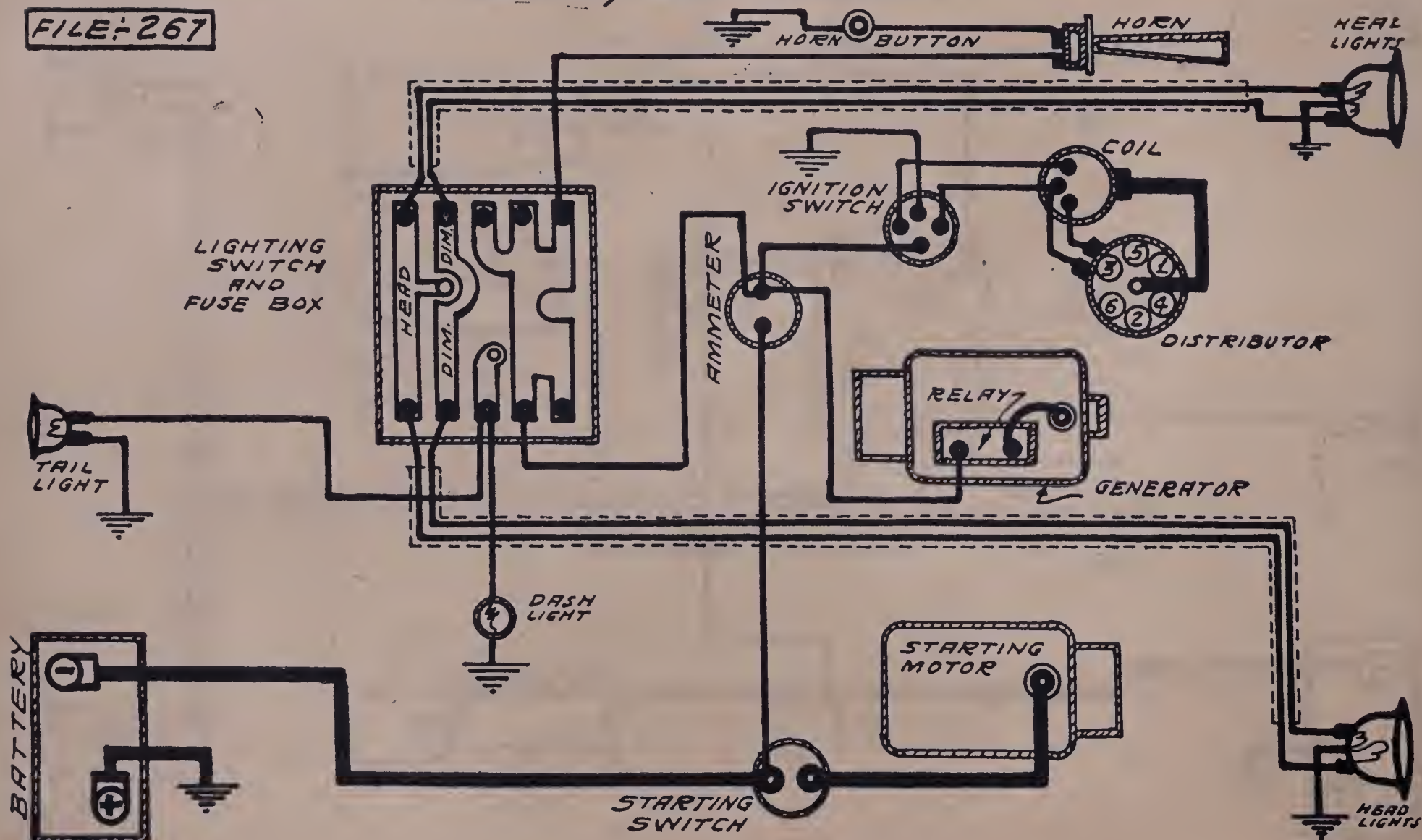
PRIGE

1919

MODEL 6-51, 6-55

6-VOLT, REMY SYSTEM

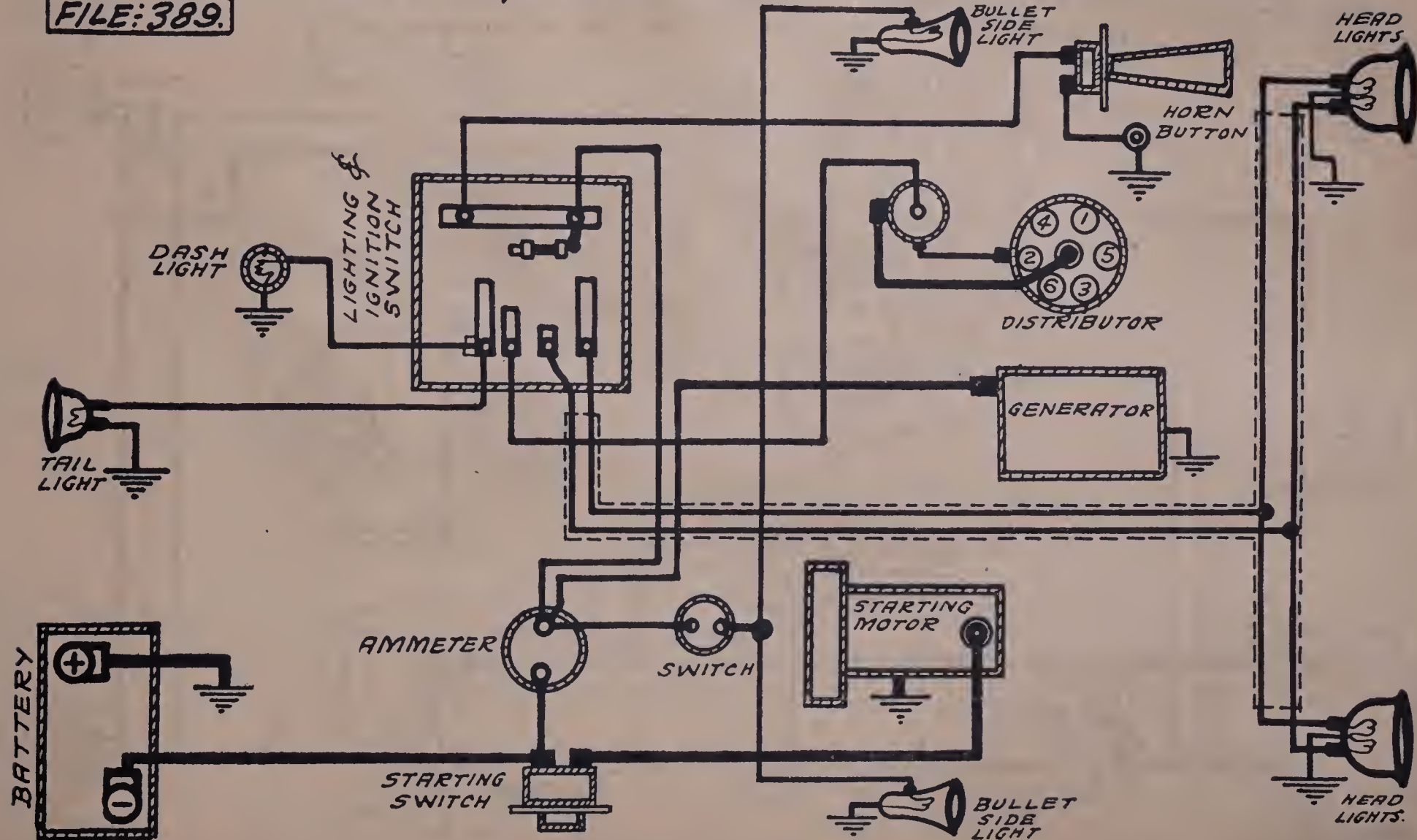
FILE: 267



PAIGE

1920
6-VOLT, -GRAY & DAVIS SYSTEM. = ATWATER-KENT IGNITION.

FILE: 389.



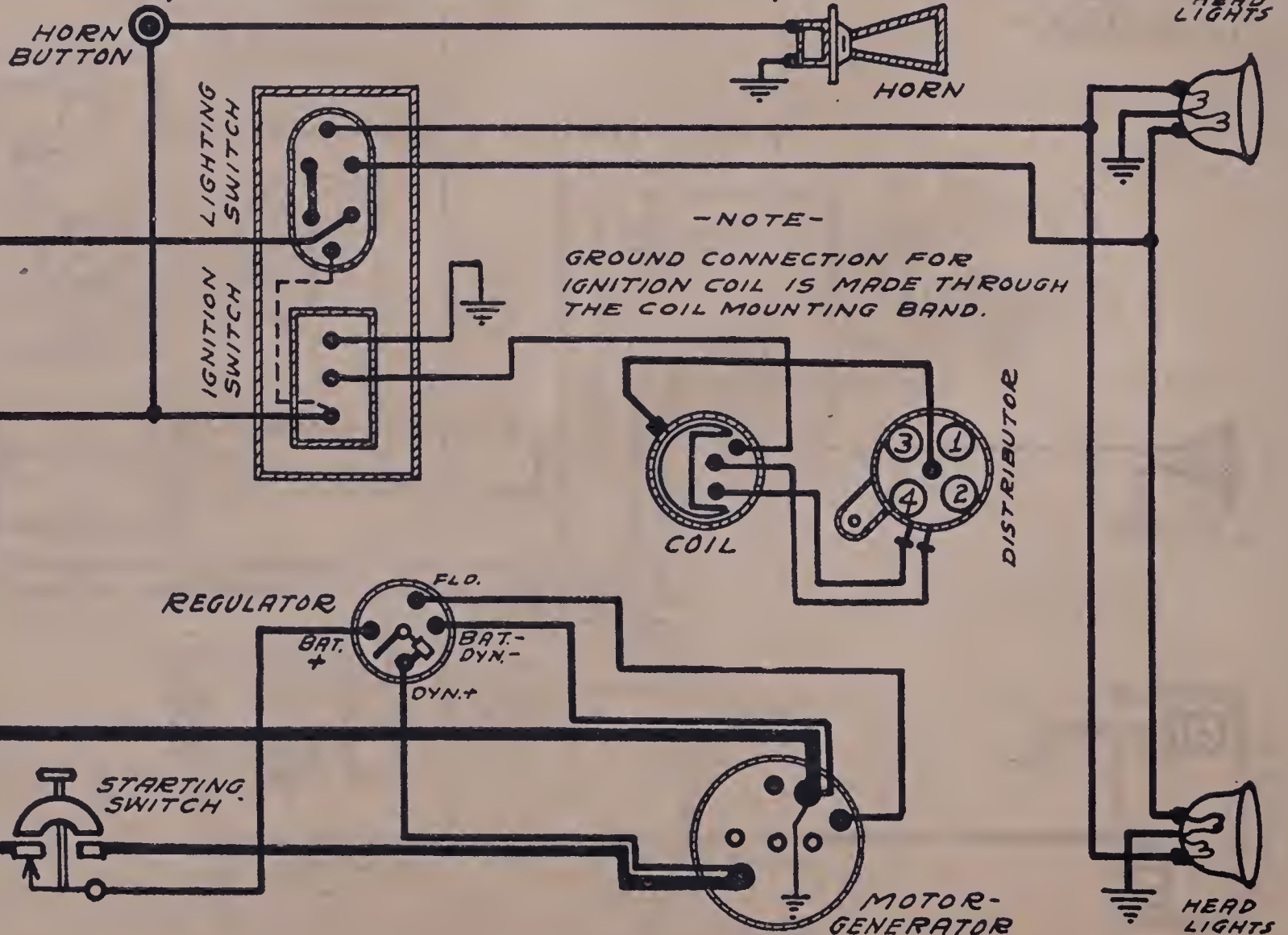
PARTIN-PALMER

1915

MODEL 38

6-VOLT, ALLIS-CHALMERS SYSTEM, CONNECTICUT IGN.

FILE: 27.



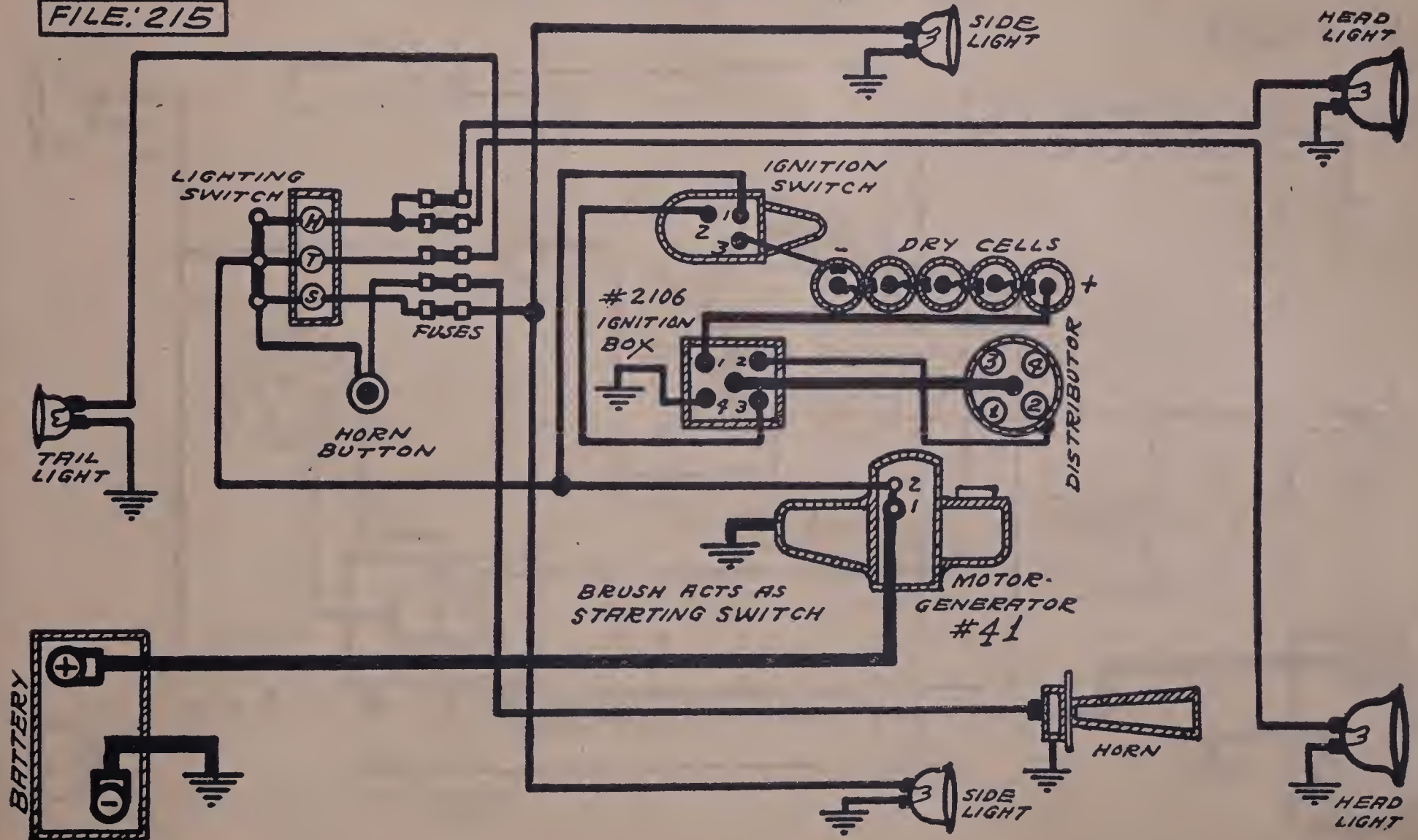
1914

PATERSON

MODELS 32-33

6-VOLT, DELCO SYSTEM

FILE: 215



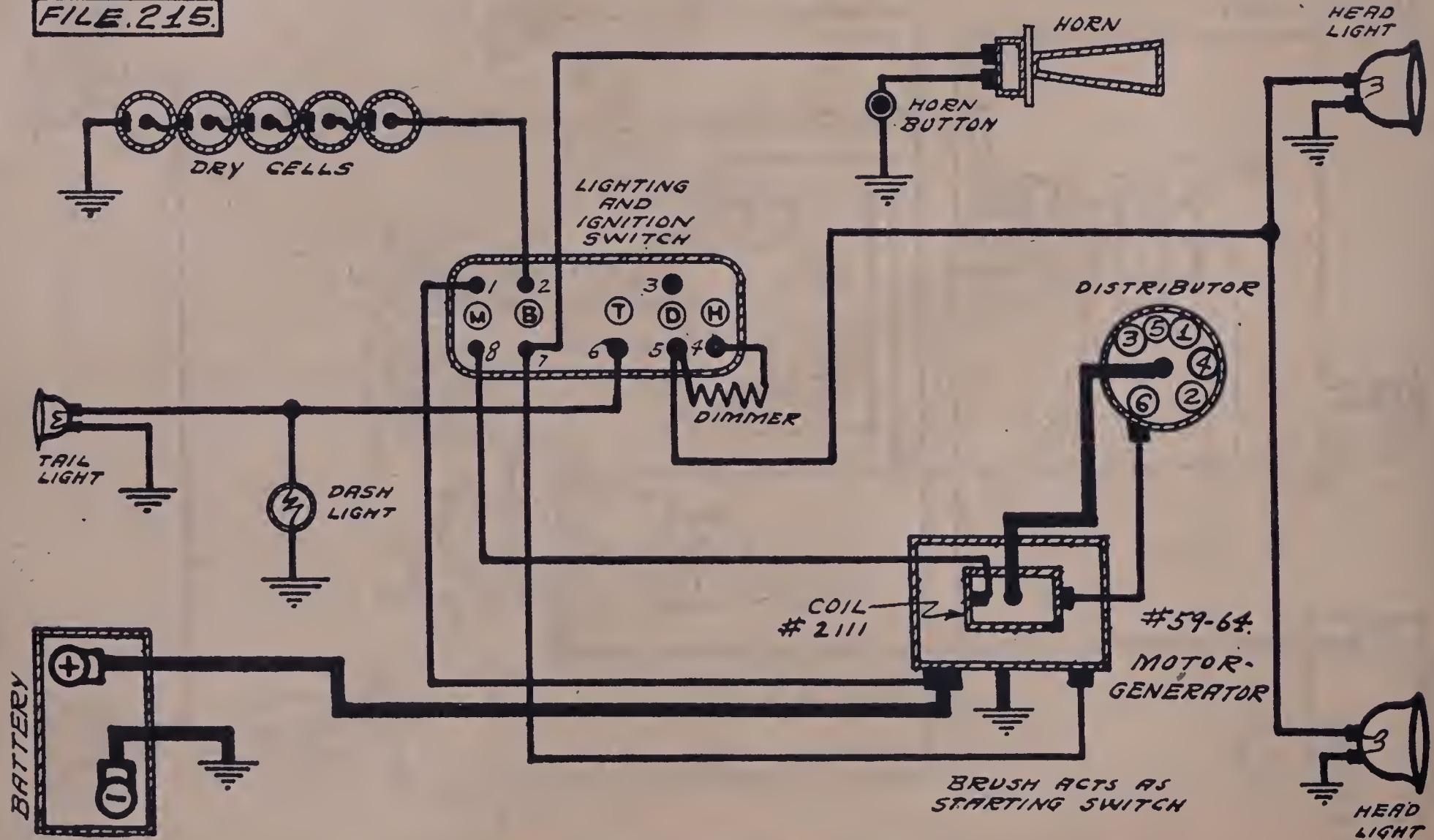
PATERSON

1915

MODELS 4-32, 6-48.

6-VOLT, DELCO SYSTEM.

FILE 215.



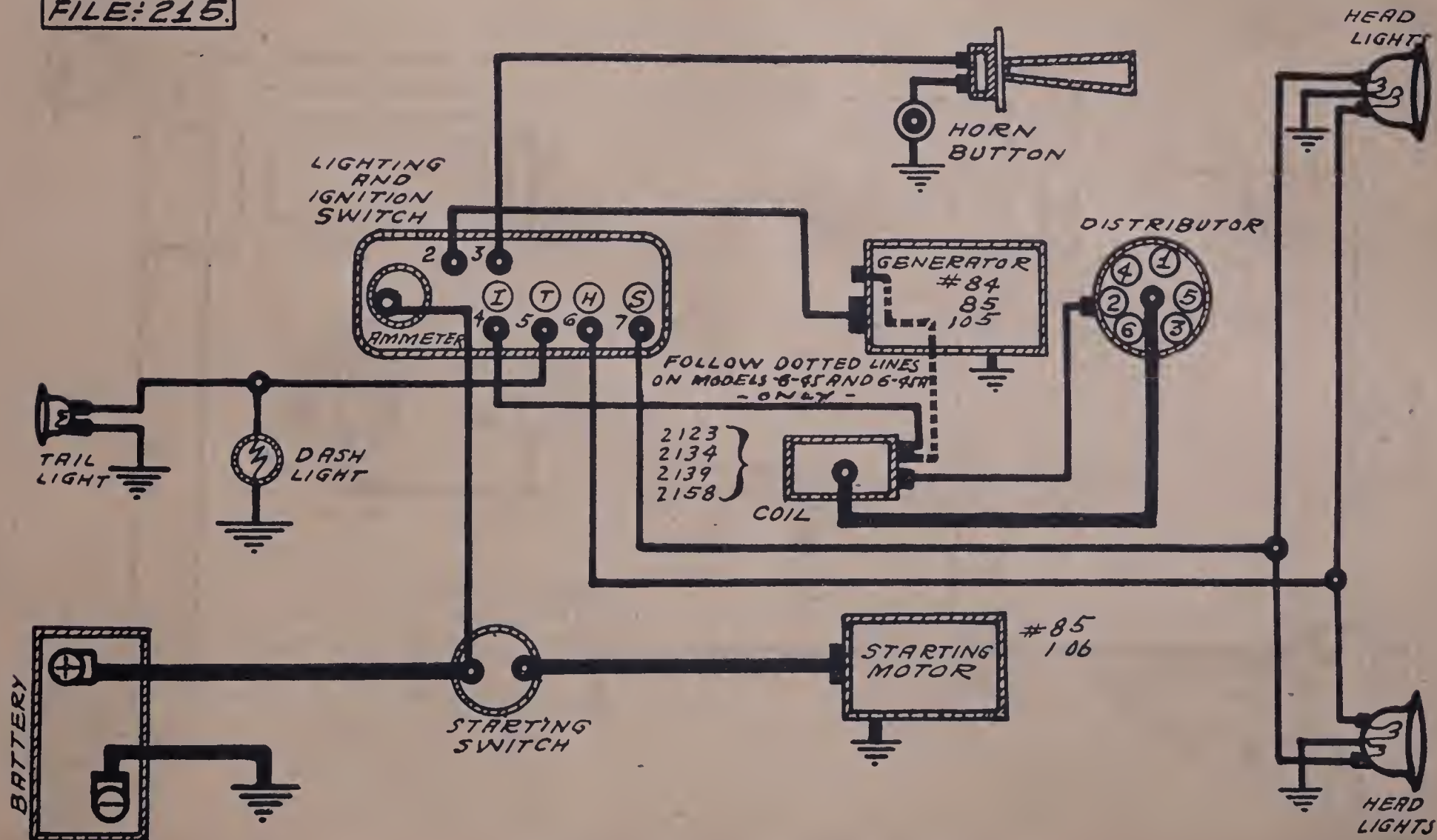
PATERSON

1916-MODEL 6-42.

1917-18-19-MODEL 6-45, 6-45R.

6-VOLT, DELCO SYSTEM.

FILE: 215.



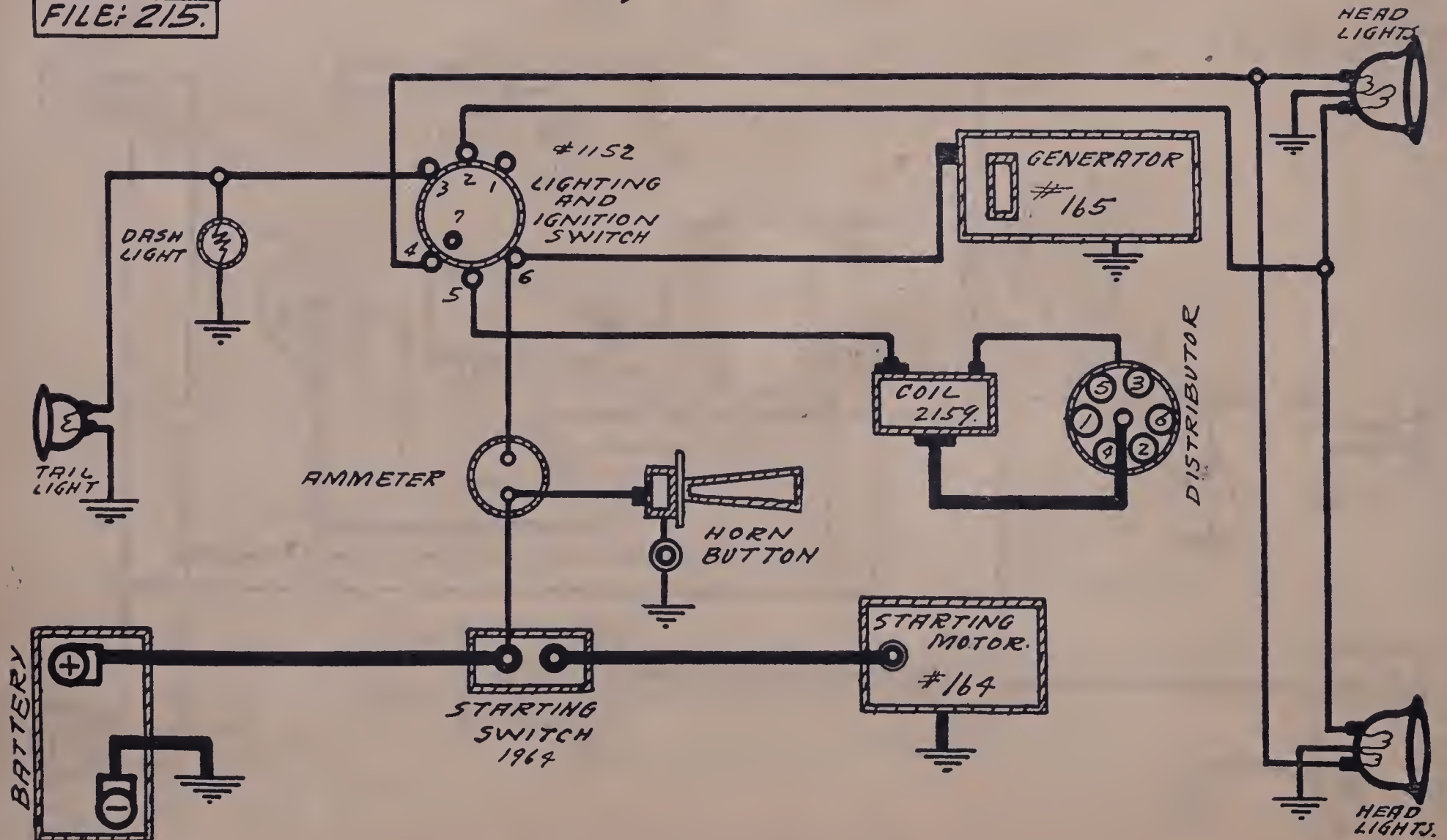
PATERSON

1920.

MODEL 6-47.

6-VOLT, - DELCO SYSTEM.

FILE: 215.



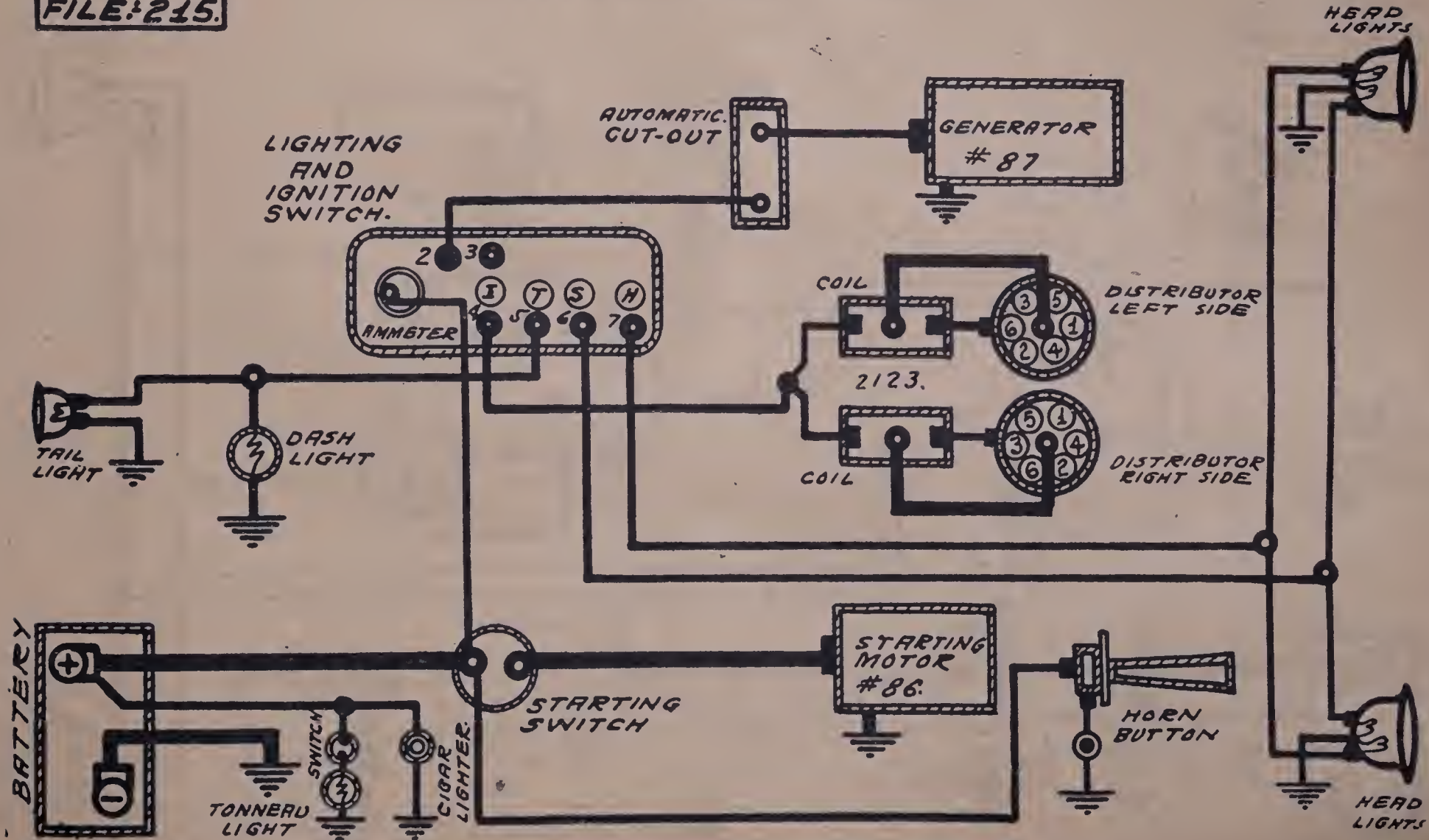
PATHFINDER

1916

MODEL-ONE-B.

6-VOLT, DELCO SYSTEM.

FILE: 215.



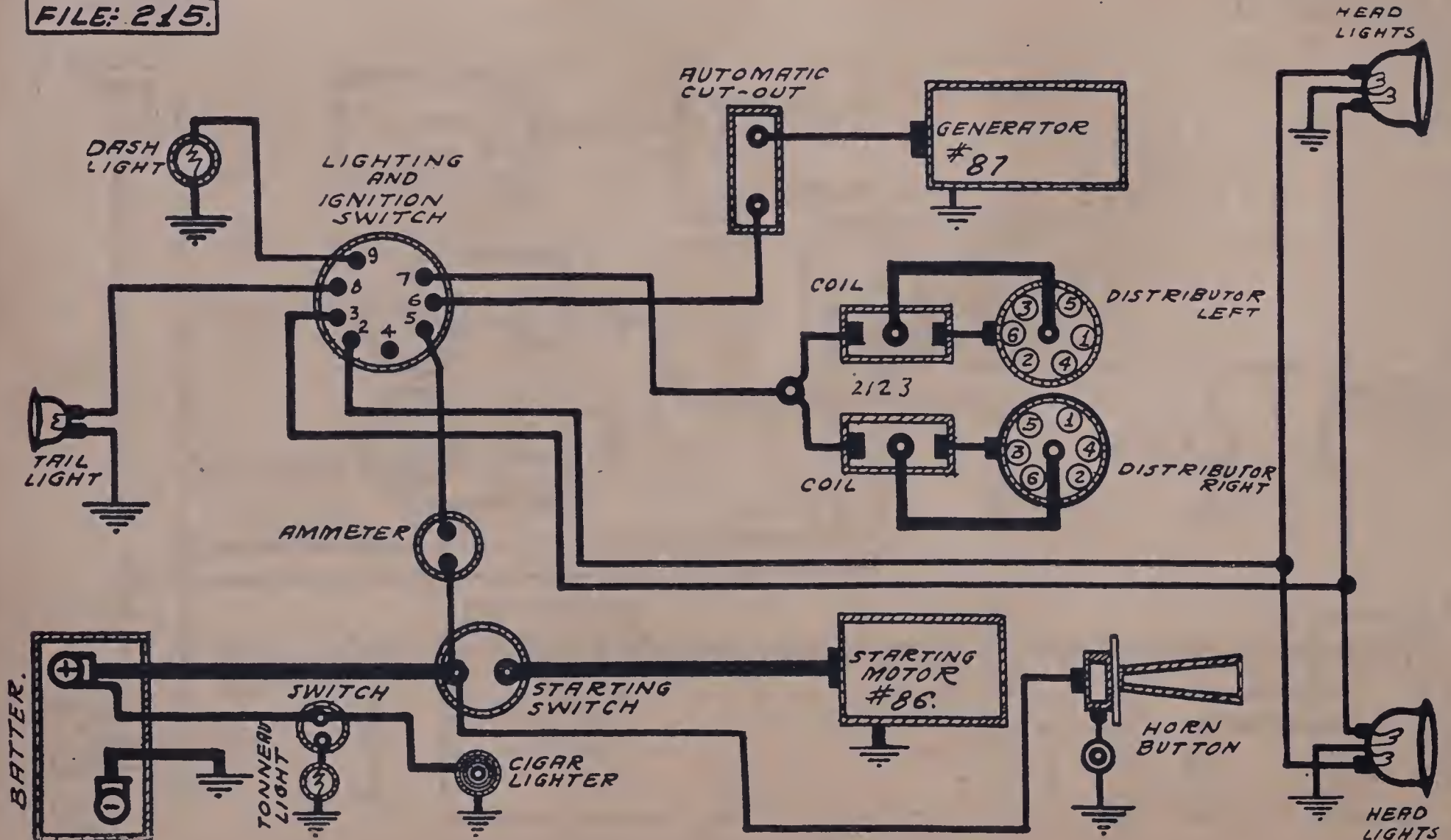
PATHFINDER

1917

12 CYLINDER MODEL

6-VOLT, DELCO SYSTEM.

FILE: 215.



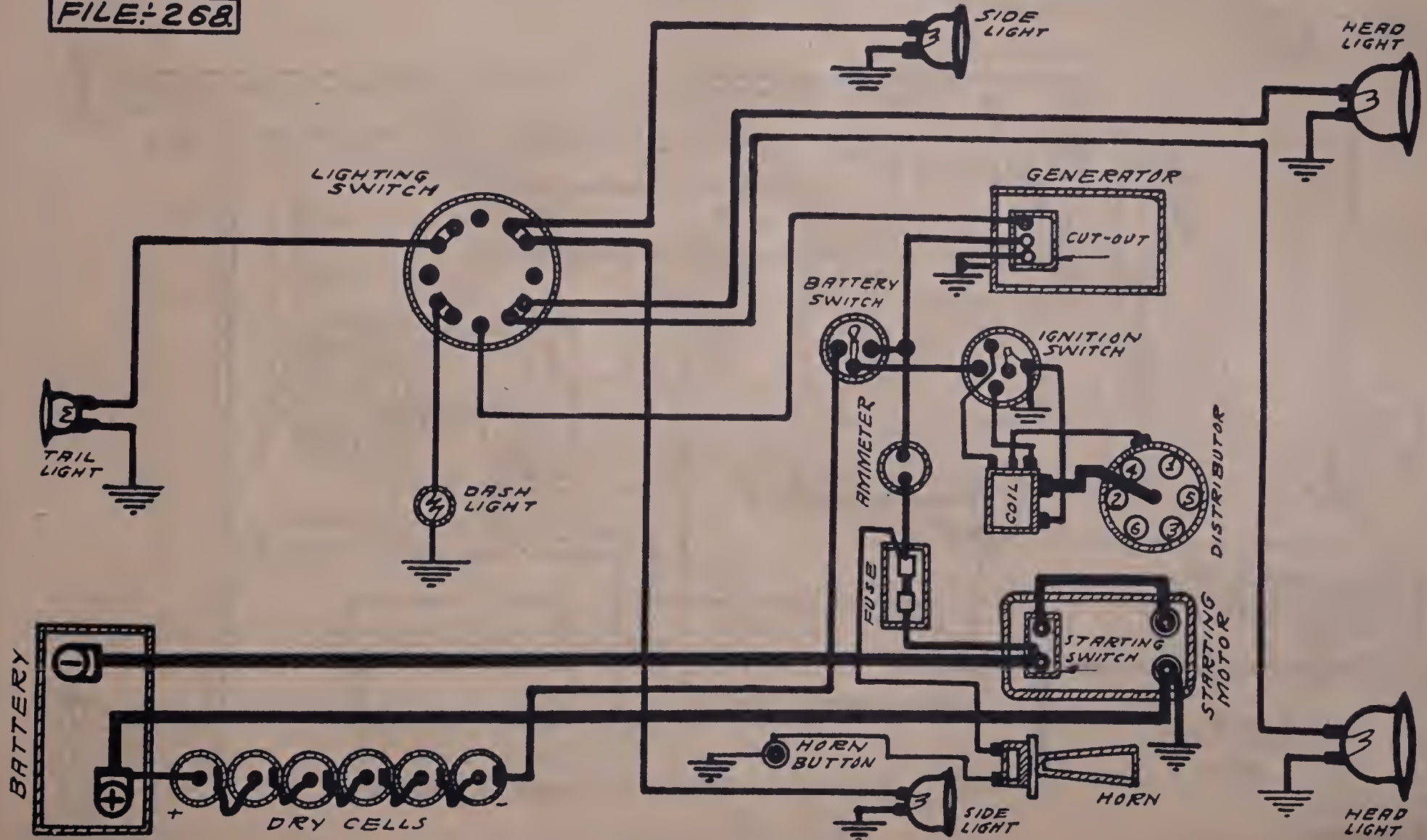
1915

PEERLESS

MODEL - 55.

6-VOLT, -GRAY & DAVIS SYSTEM.

FILE: 268



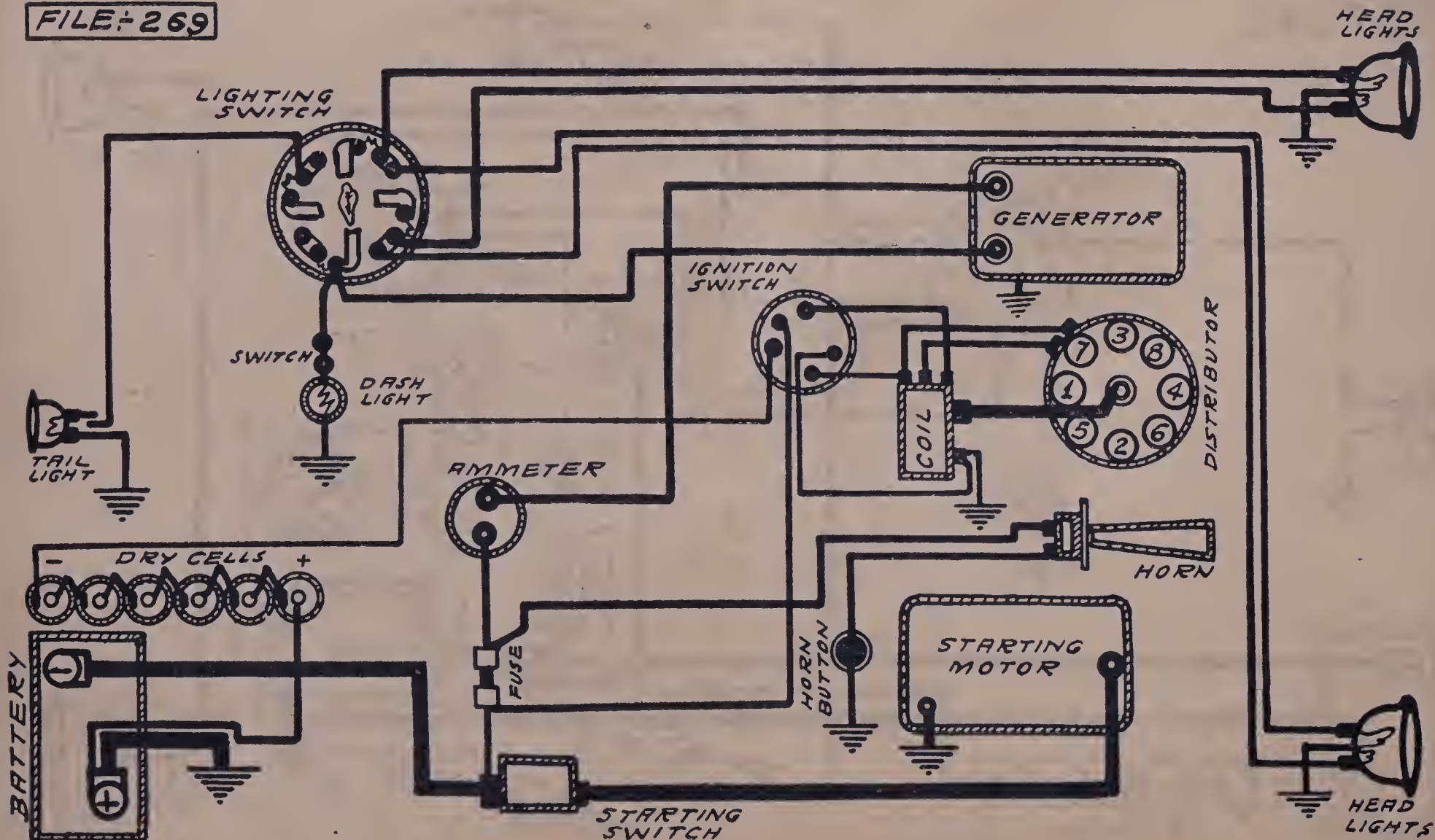
PEERLESS

1916

MODEL 56-57 FF.

6-VOLT, -GRAY & DAVIS SYSTEM

FILE-269



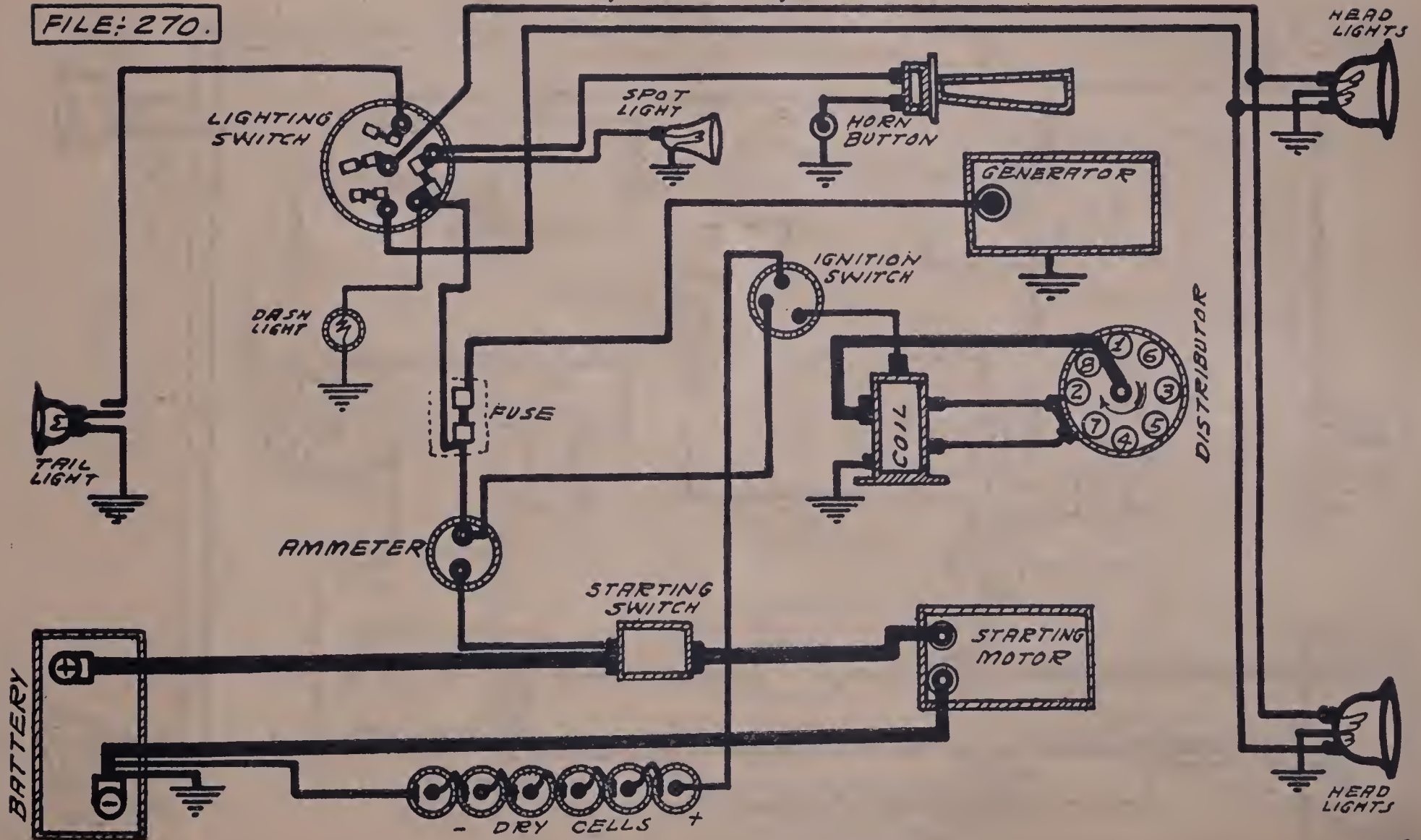
PEERLESS

1917

MODEL 56-2FF.

6-VOLT, -GRAY & DAVIS SYSTEM.

FILE: 270.



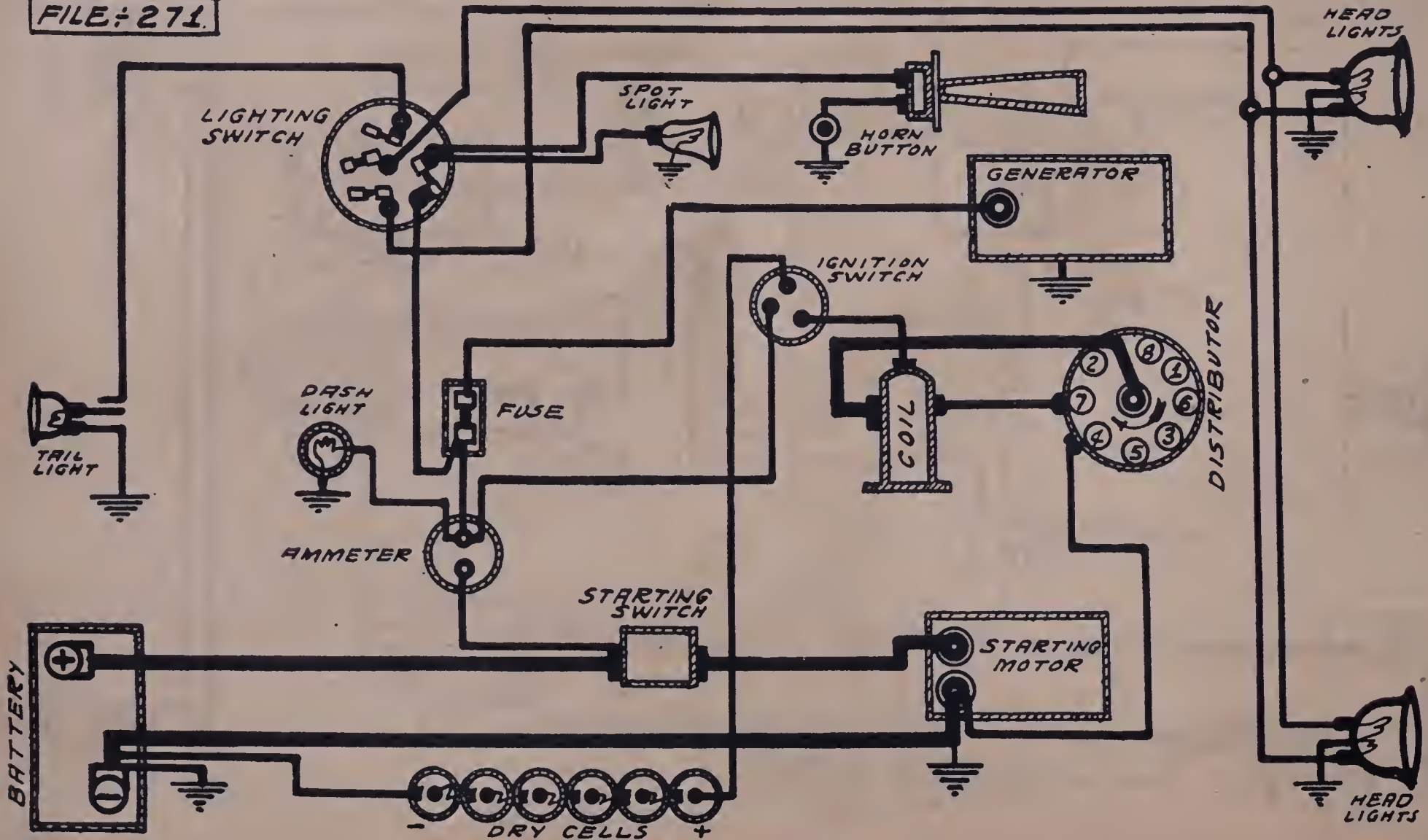
PEERLESS

1918-1919.

MODEL 4FF

6-VOLT, AUTOLITE SYSTEM.

FILE: 271.

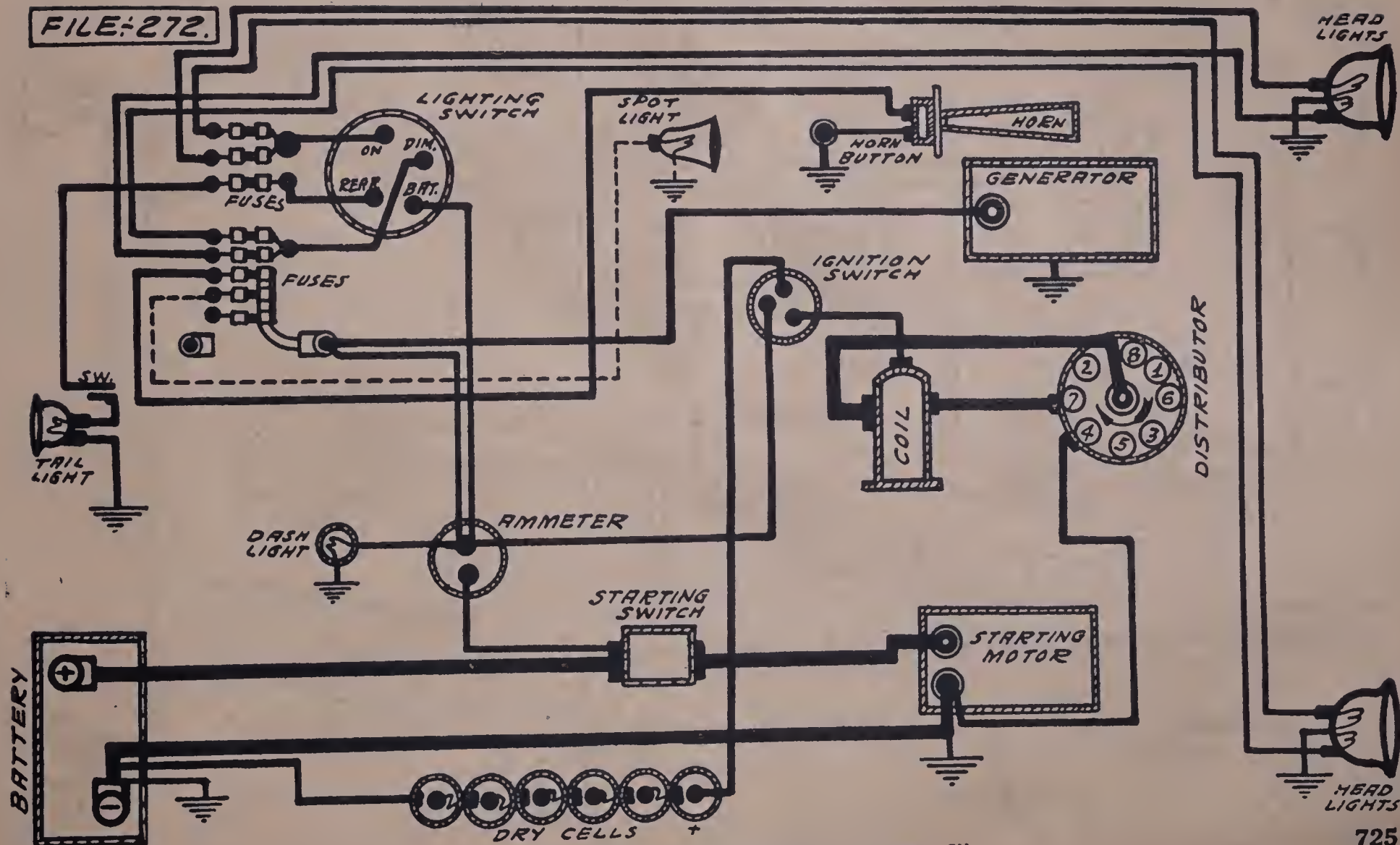


PEERLESS

1920

MODEL 56-6FF.

6-VOLT, AUTOLITE SYSTEM



Copyright, 1920, by Geo. Roudanez, Chicago, Ill.

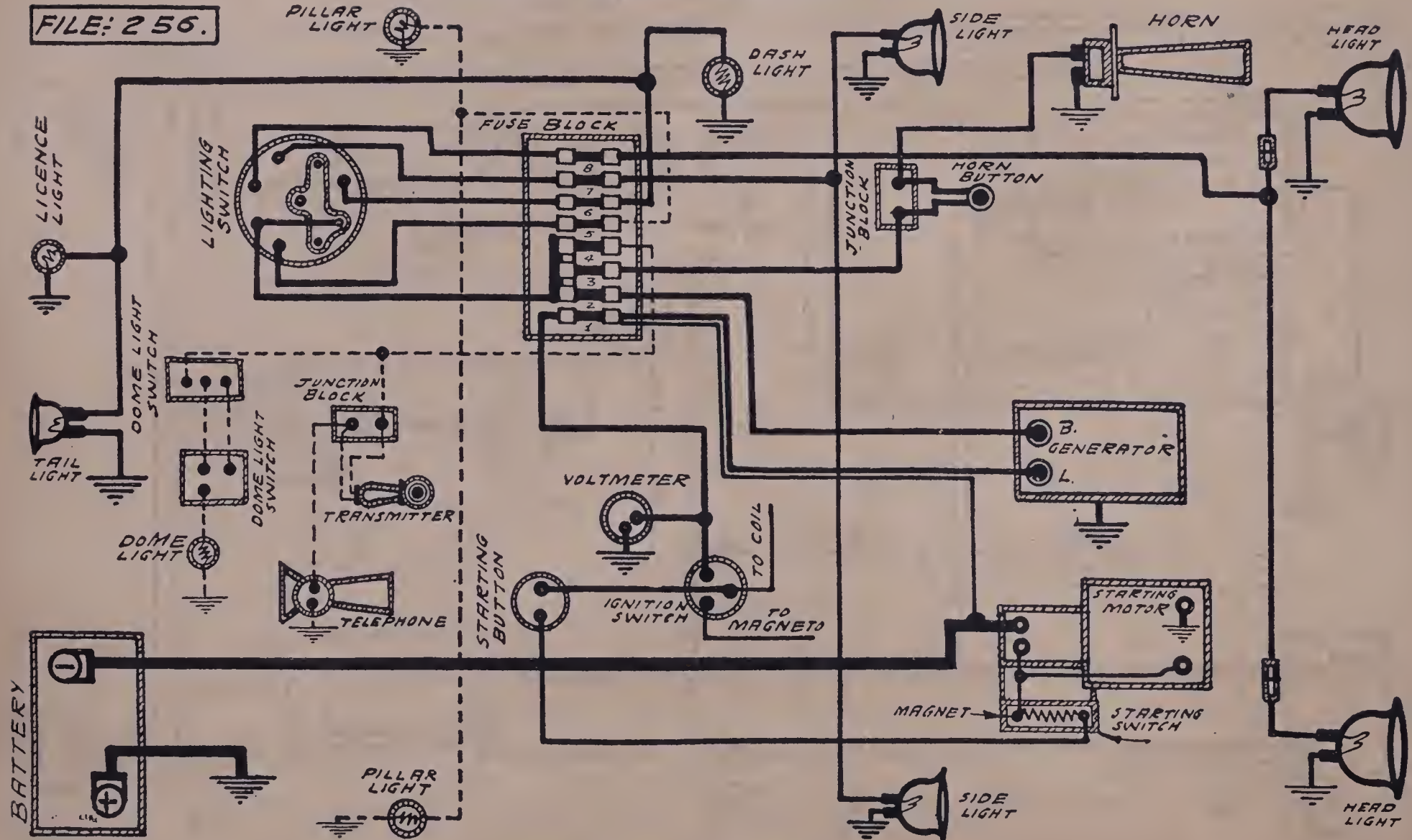
PIERCE-ARROW

1914

MODEL 38-C 2, 48-B2.

6-VOLT, -WESTINGHOUSE SYSTEM.

FILE: 256.

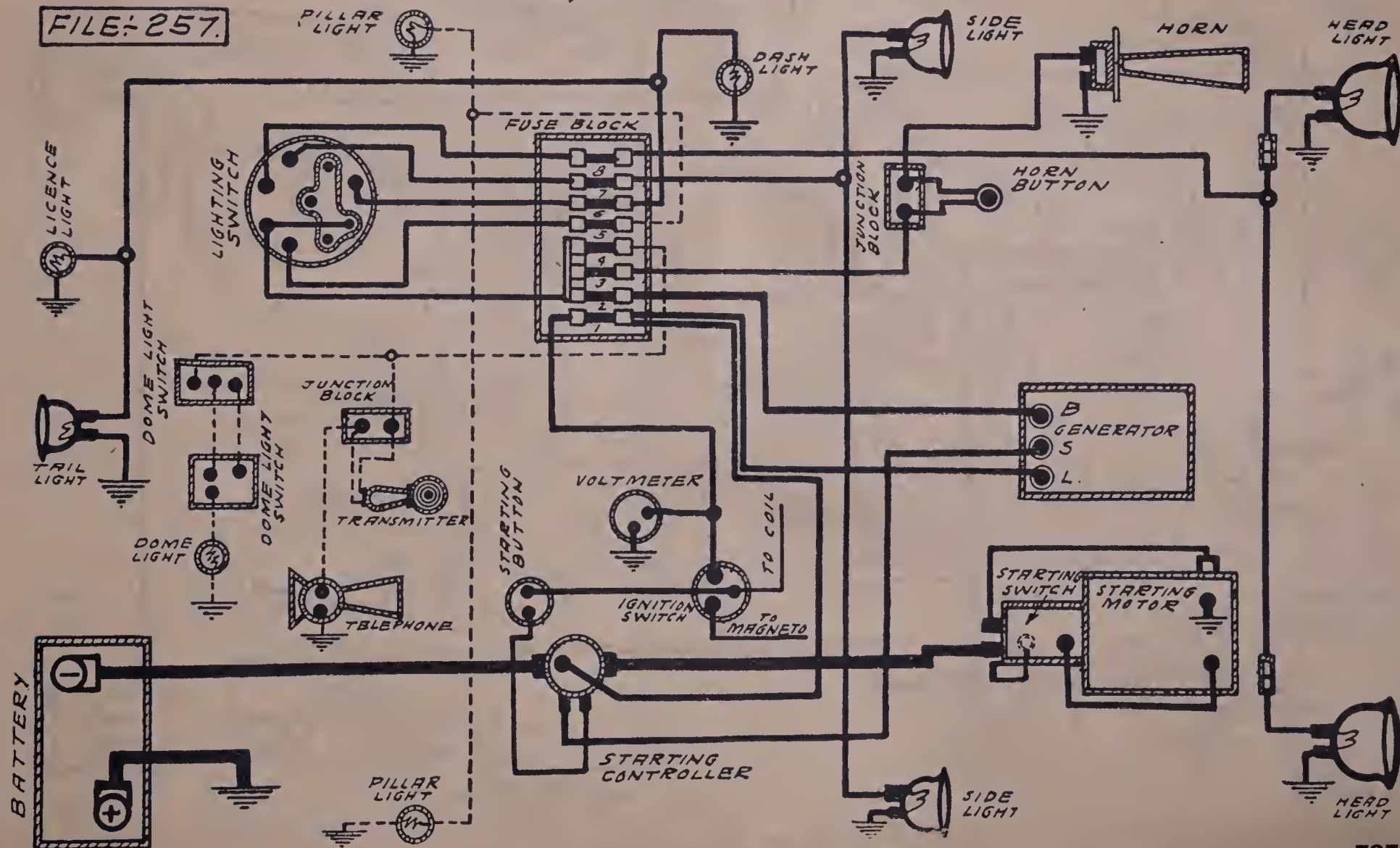


PIERCE-ARROW

1915

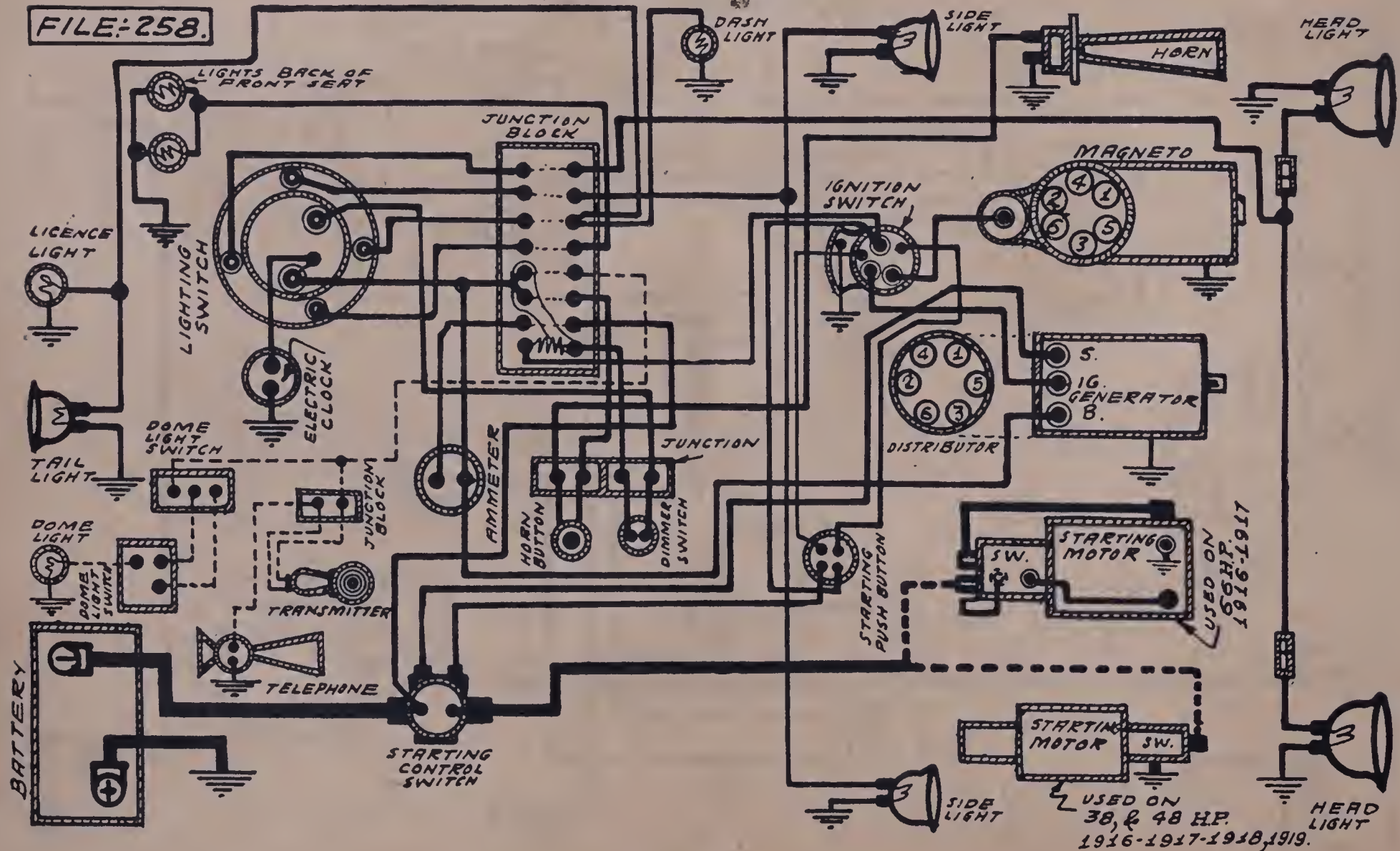
MODEL 38-C3, 48-B3.

6-VOLT, WESTINGHOUSE SYSTEM.



PIERCE-ARROW

1916-1917 - SERIES FOUR - 38, 48, 66. 1918-1919, SERIES FIVE, 48.
6-VOLT, WESTINGHOUSE SYSTEM.



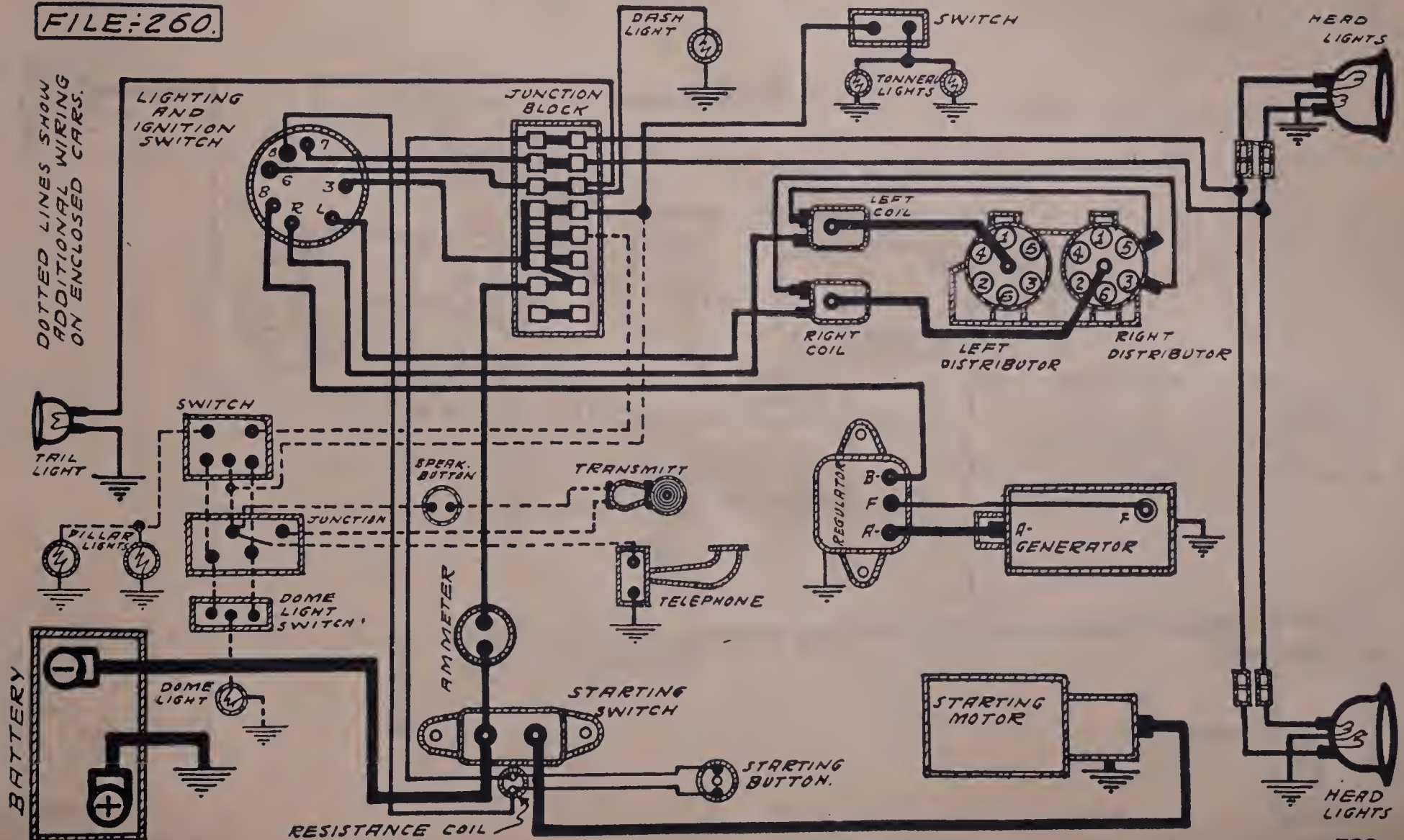
PIERCE-ARROW

1919 - 48 HP.

1920 - 38-HP.

6-VOLT, WESTINGHOUSE SYSTEM.

FILE:260.



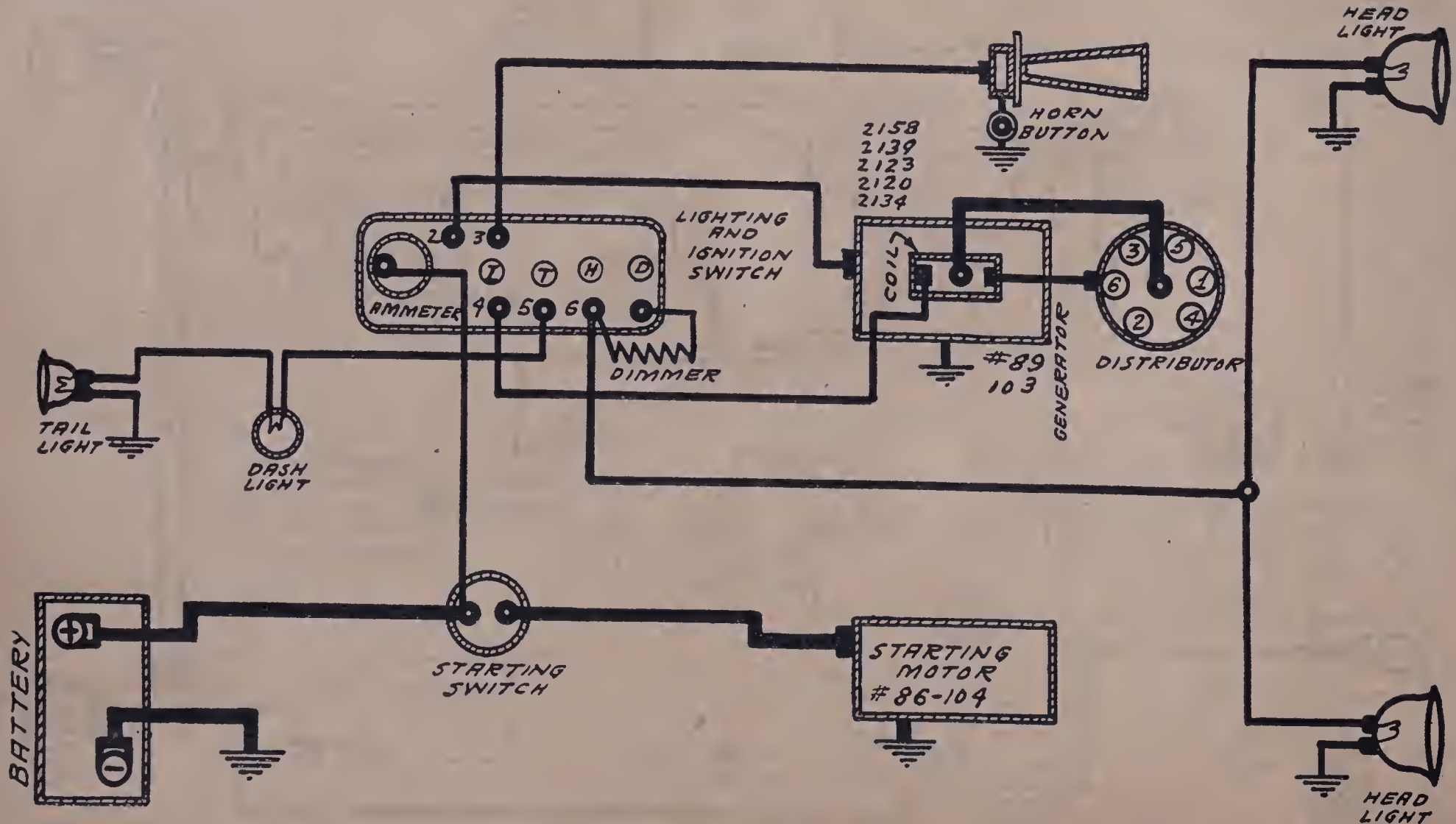
PILOT

1916-1917-1918-19.

MODEL 6-45.

6-VOLT,-DELCO SYSTEM.

FILE:215.



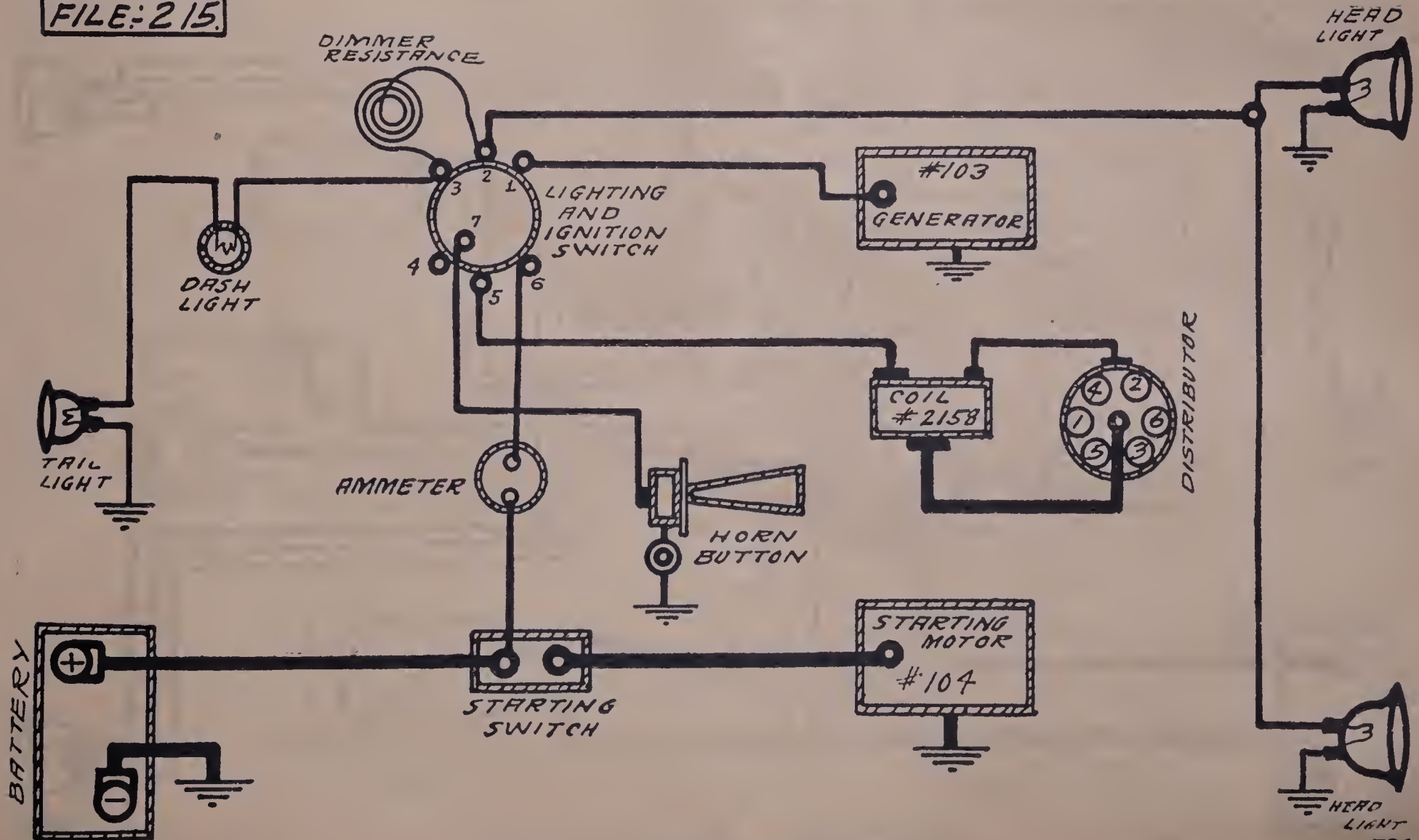
1920

PILOT

MODEL 6-45

6-VOLT, -DELCO SYSTEM.

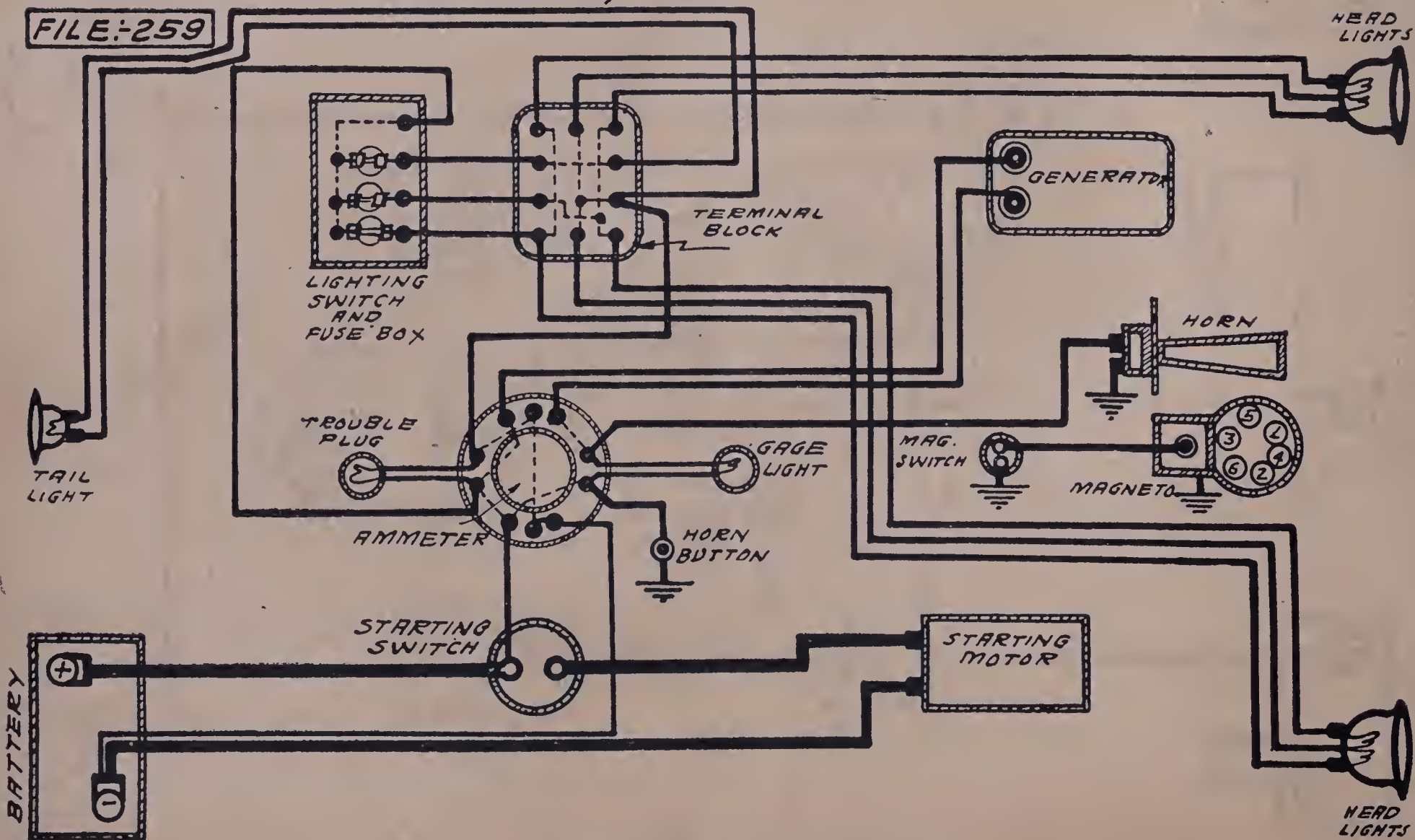
FILE: 215.



PREMIER
6-VOLT, REMY SYSTEM.

MODEL A.

6-VOLT, REMY SYSTEM.



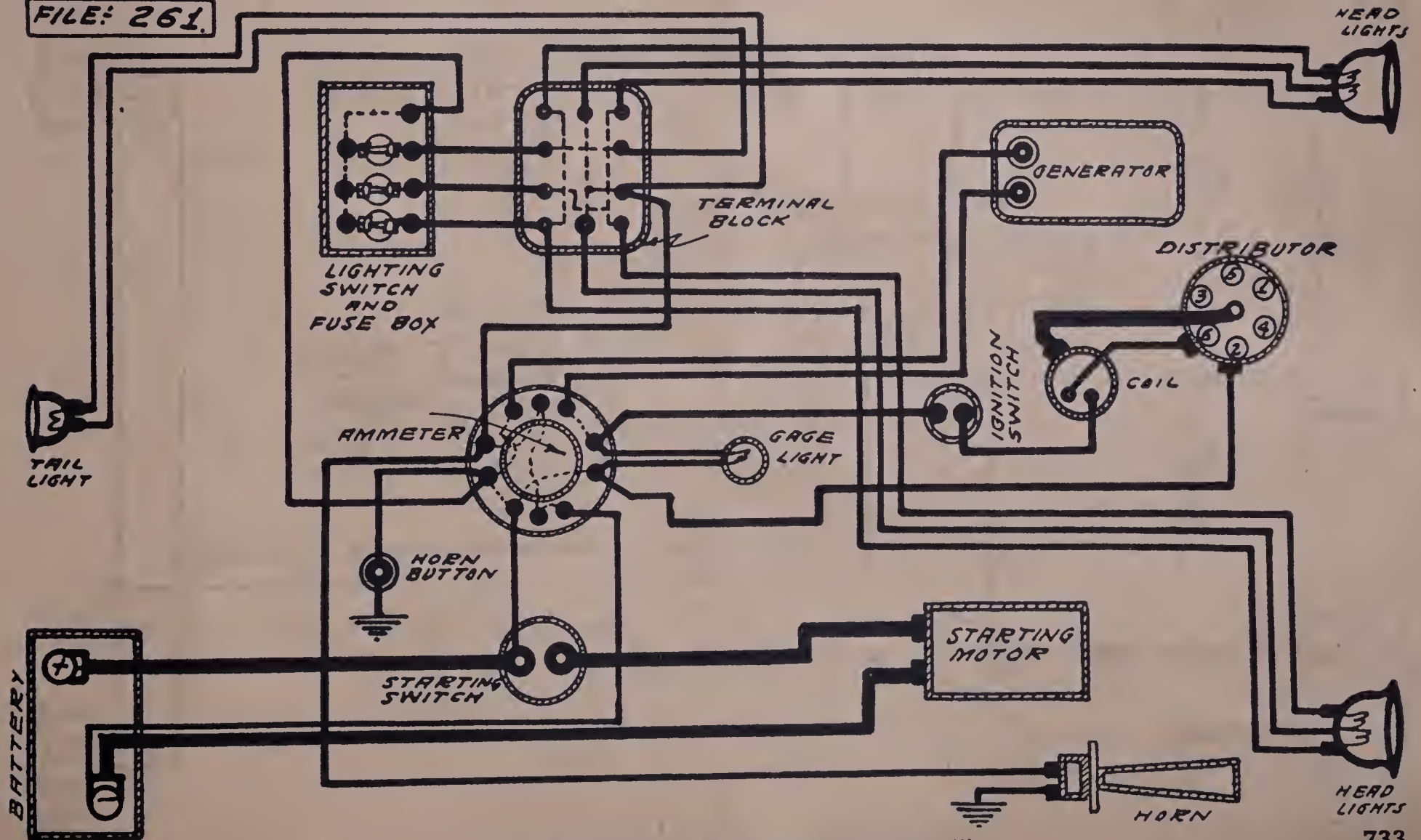
PREMIER

1915

MODEL 6-50

6-VOLT, REMY SYSTEM.

FILE: 261.



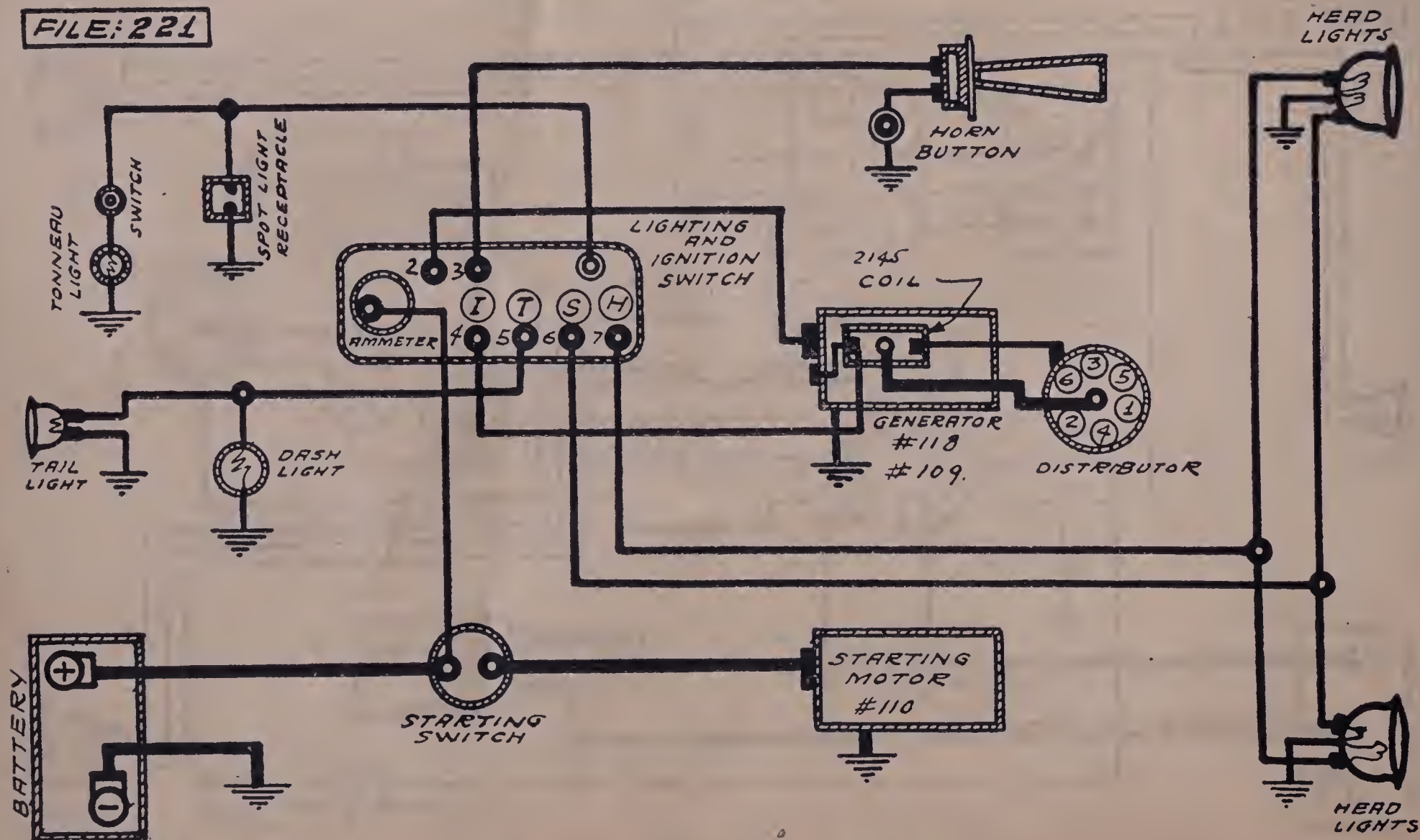
PREMIER

1917-1918-1919

MODEL-B, 6-B, 6-C.

6-VOLT, DELCO SYSTEM.

FILE: 221

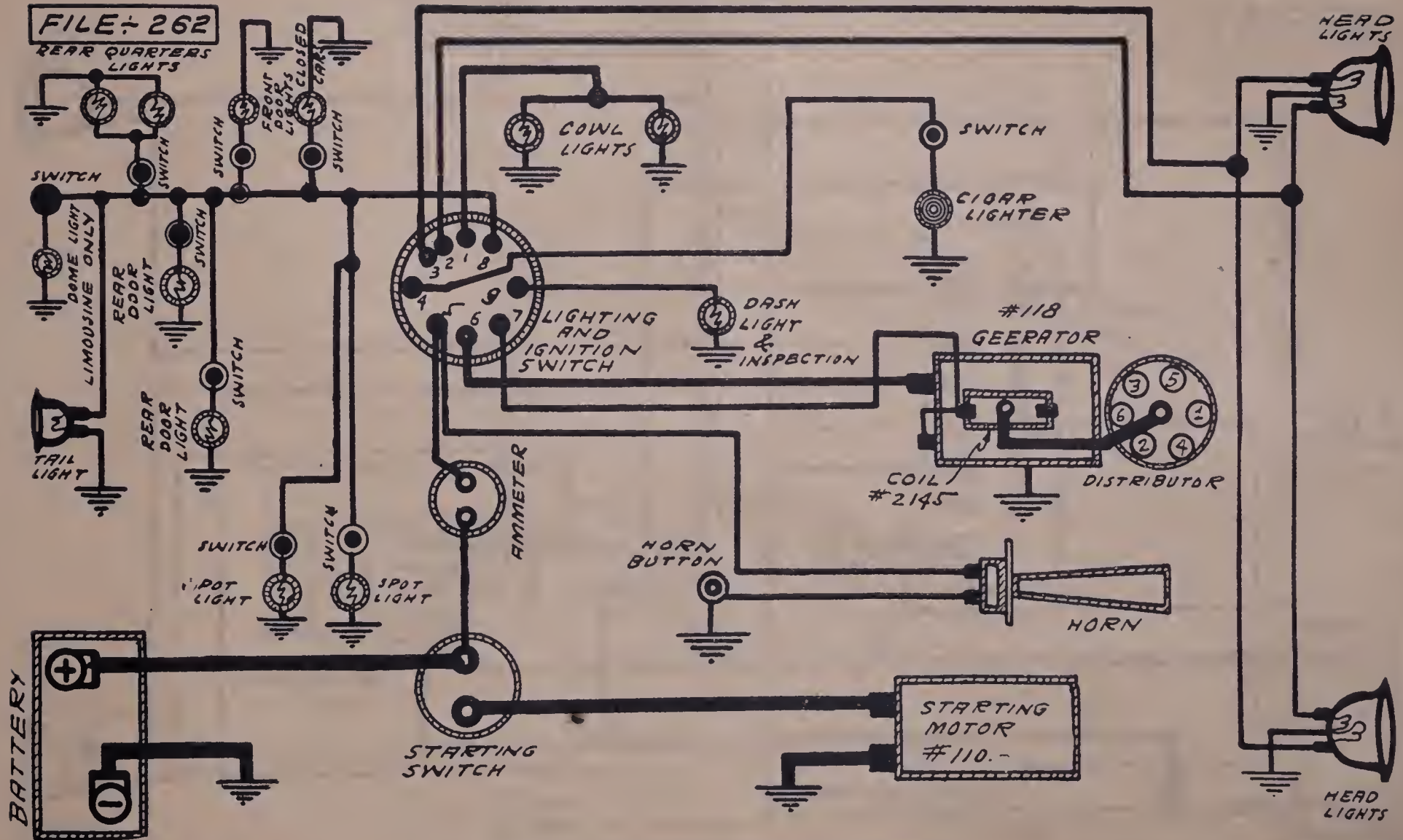


PREMIER

1920

MODEL 6-D.

6-VOLT, - DELCO SYSTEM.

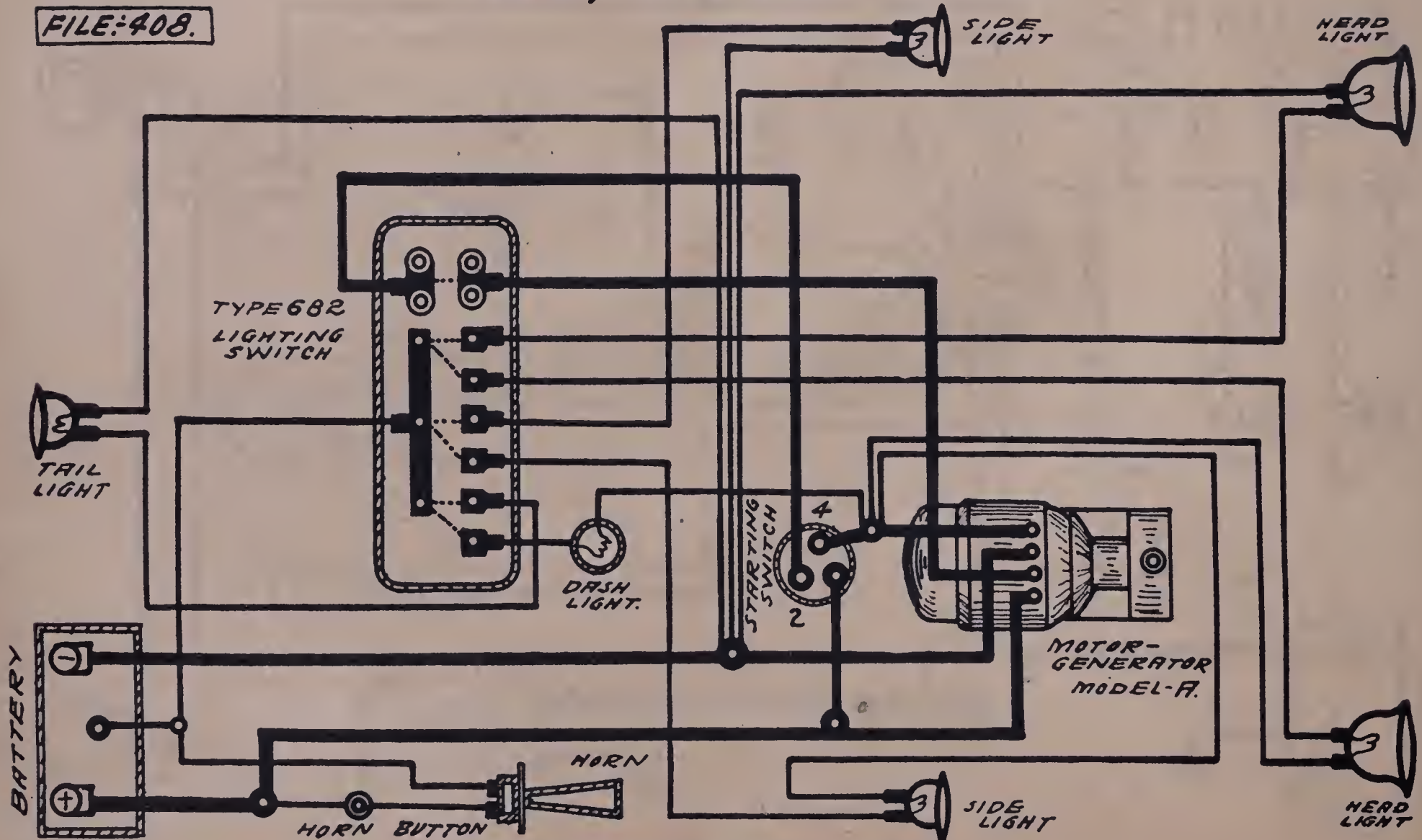


PULLMAN

1913 MODEL

16-VOLT, - NORTH EAST SYSTEM.

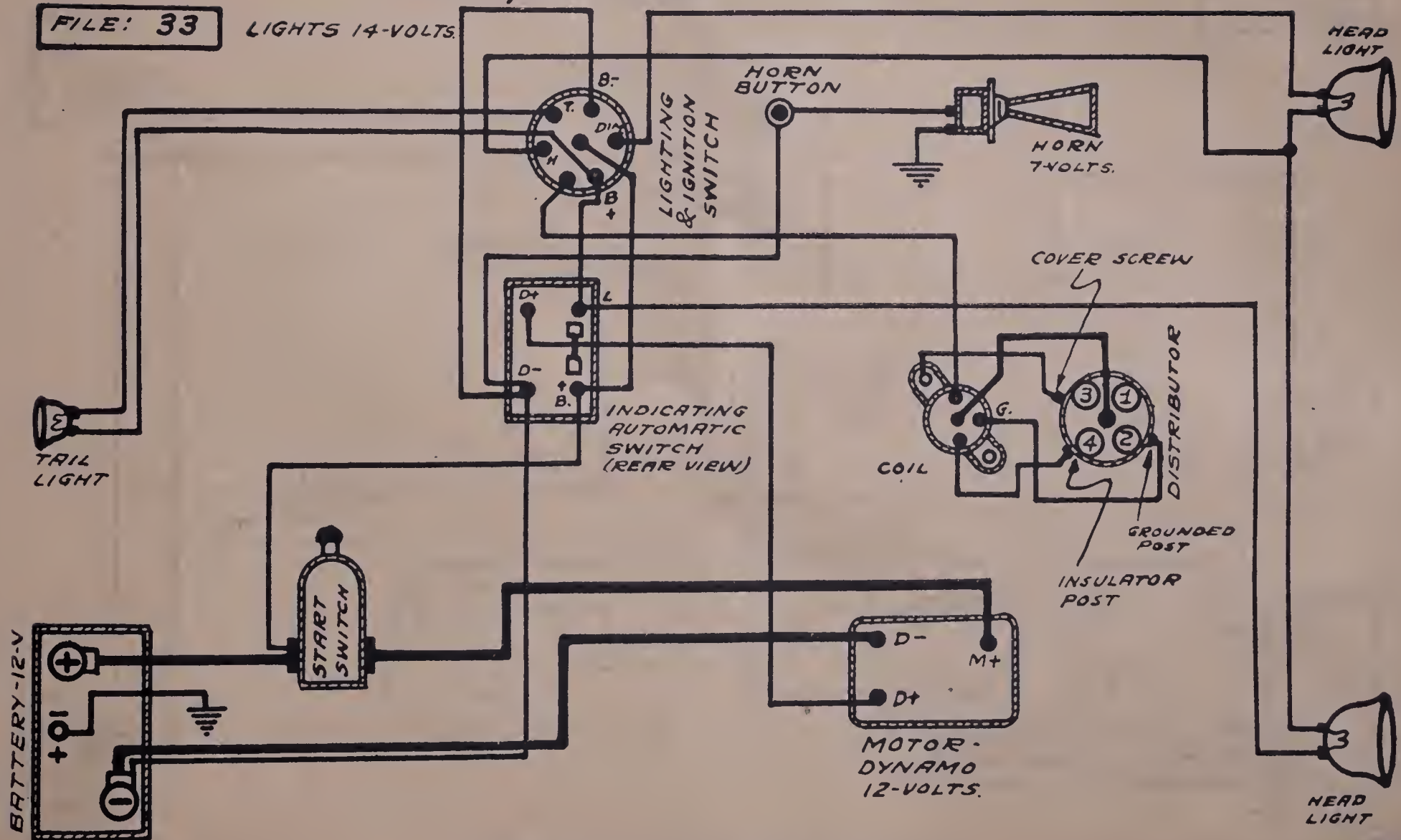
FILE: 408.



PULLMAN

1915

12-VOLT, SPLITDORF SYSTEM.

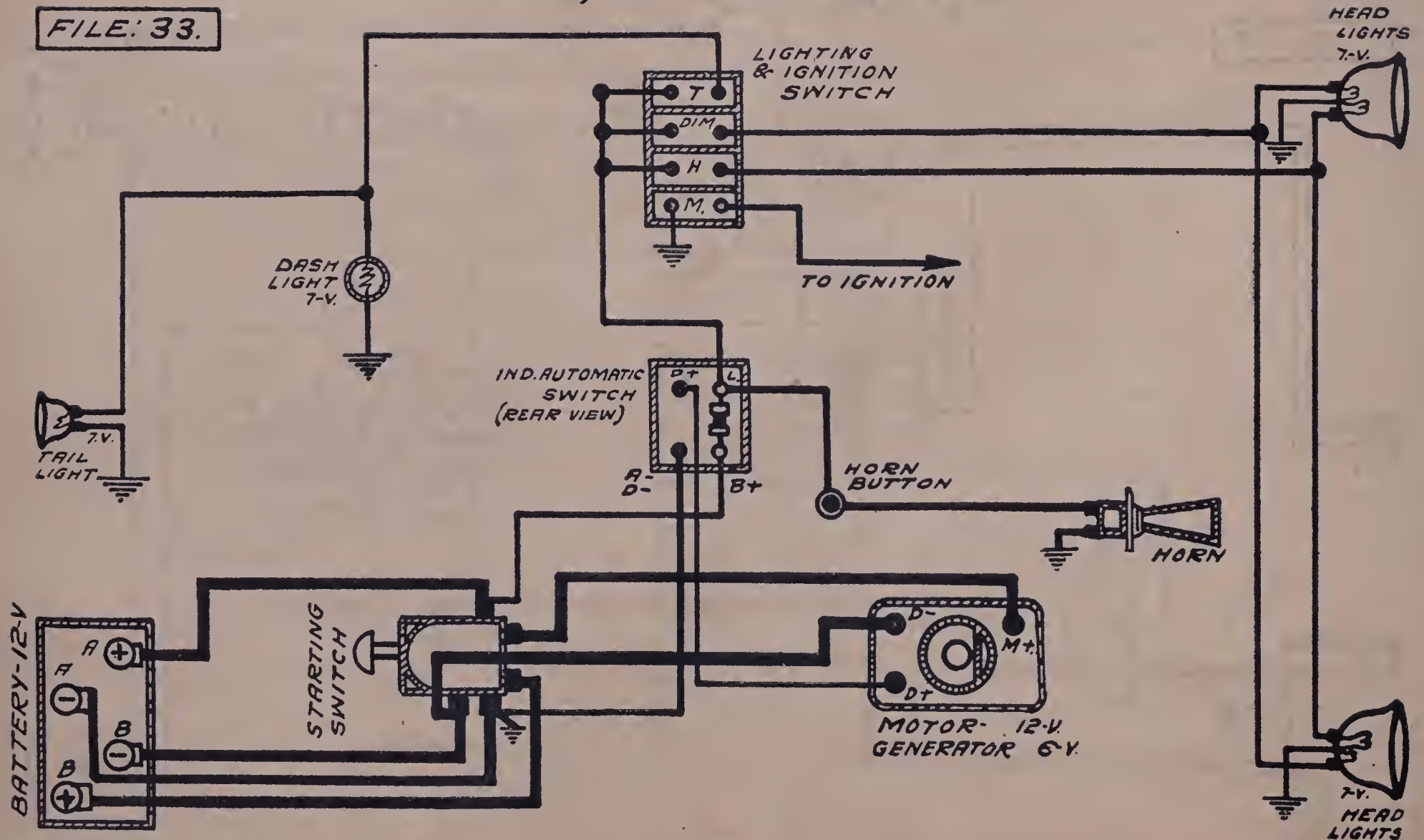


PULLMAN

1916

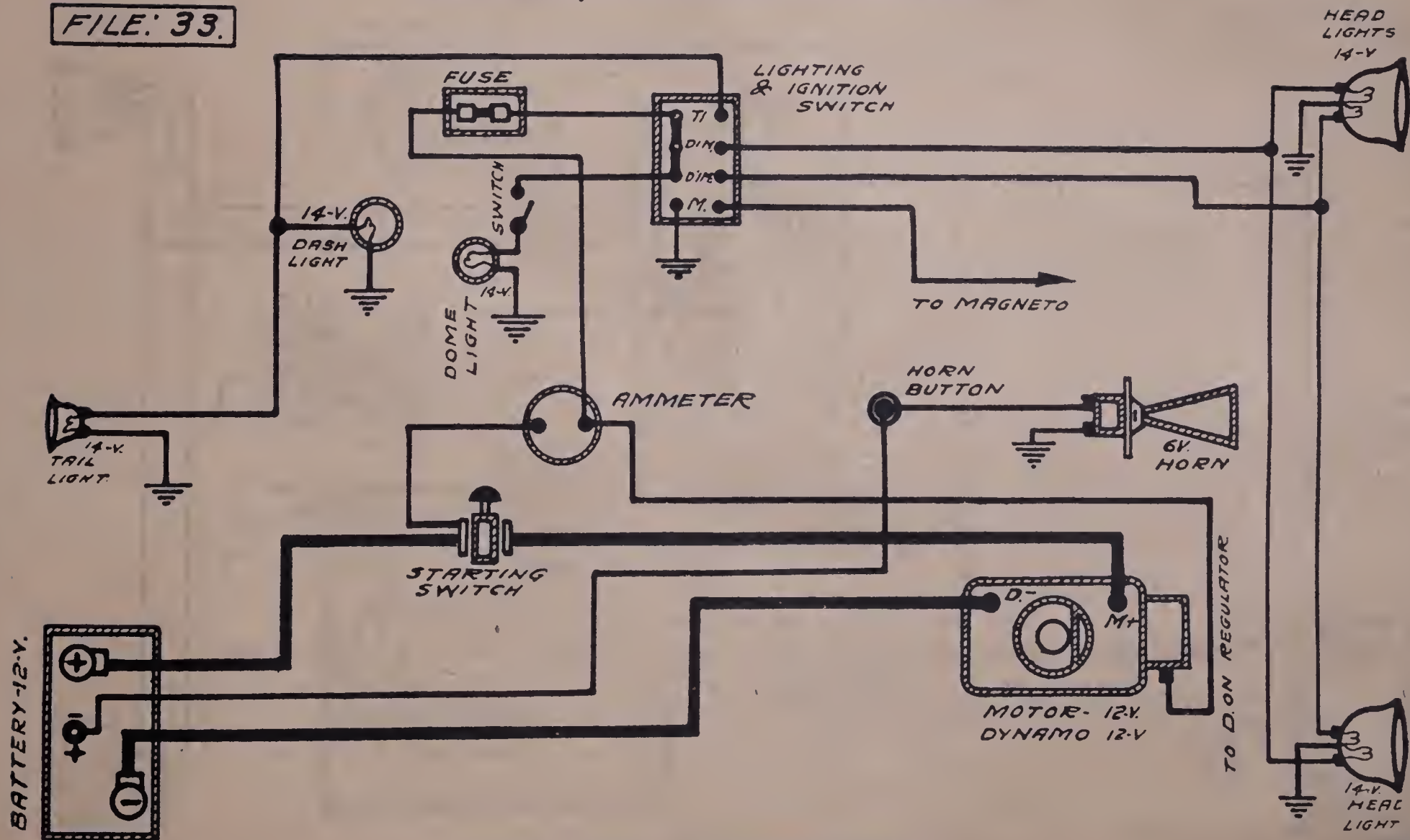
12-6-VOLT, SPLITDORF SYSTEM.

FILE: 33.



PULLMAN
1916
12-12 VOLT, SPLITDORF SYSTEM

FILE: 33.



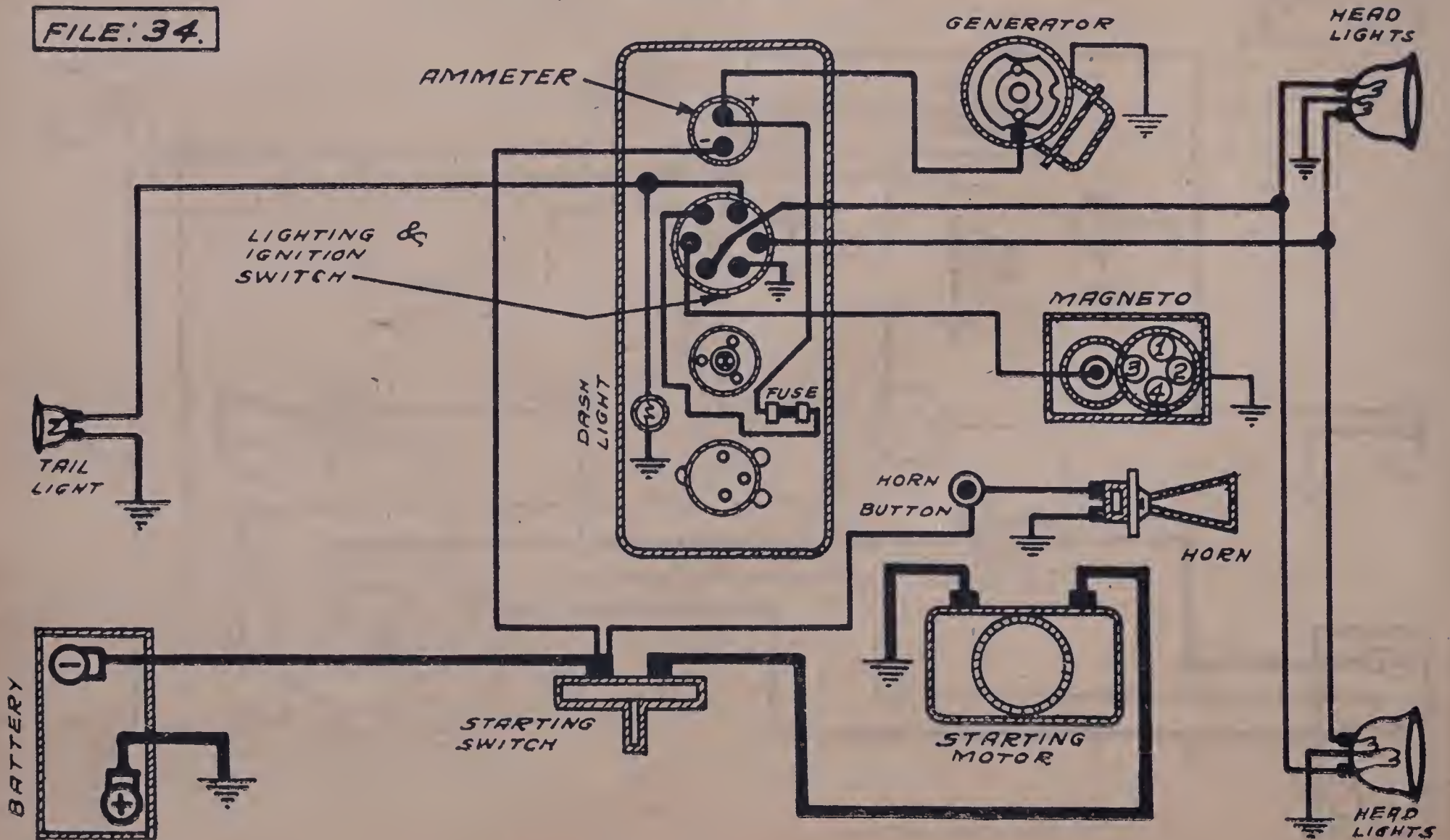
PULLMAN

1917

MODEL 4-24

6-VOLT, SPLITDORF SYSTEM.

FILE: 34.



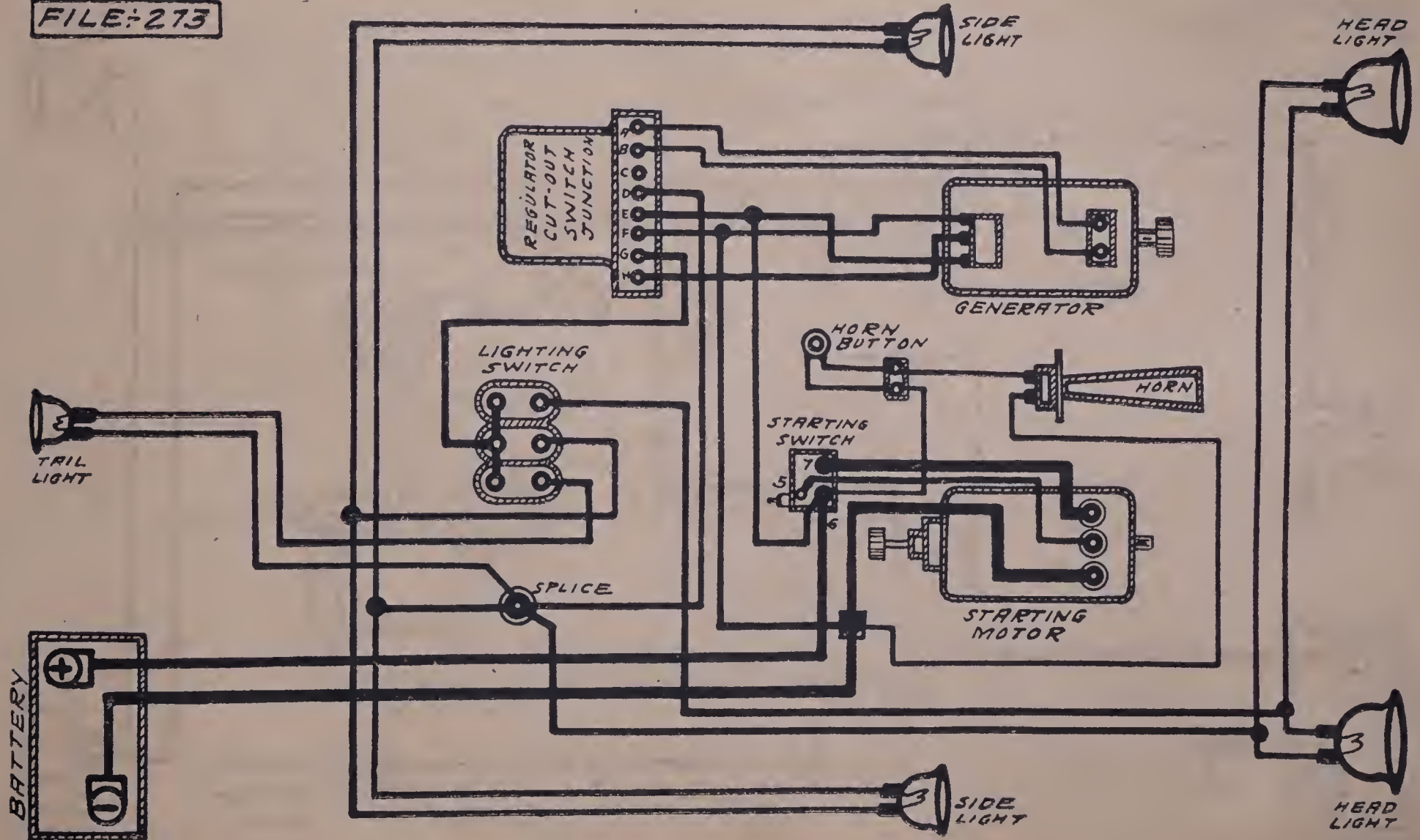
REGAL

1913-1914

MODEL N, T.

6-VOLT, RUSHMORE SYSTEM.

FILE: 273



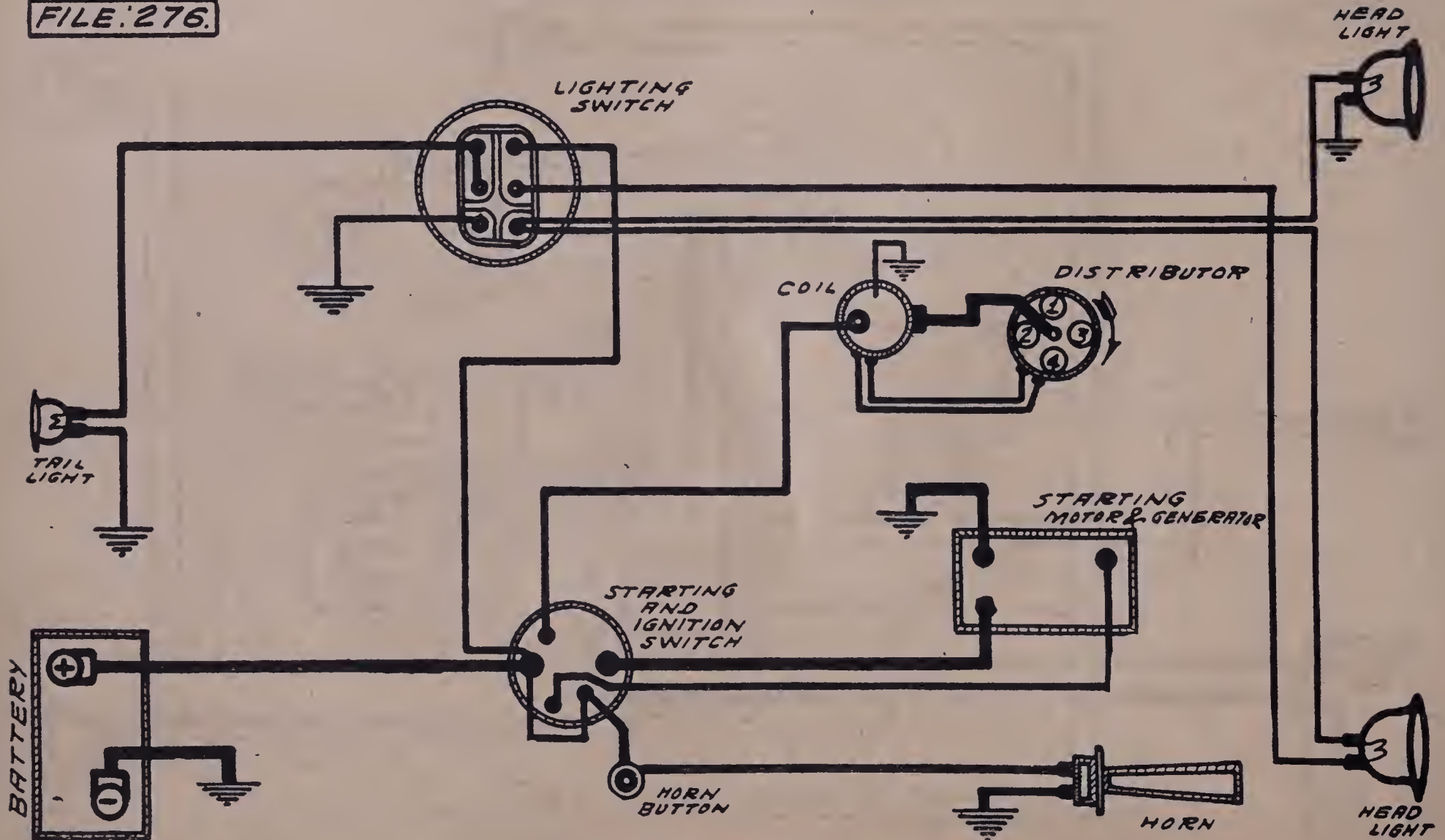
REGAL

1915

MODEL M-25, 4

12-VOLT, - DYNETO SYSTEM.

FILE 276.

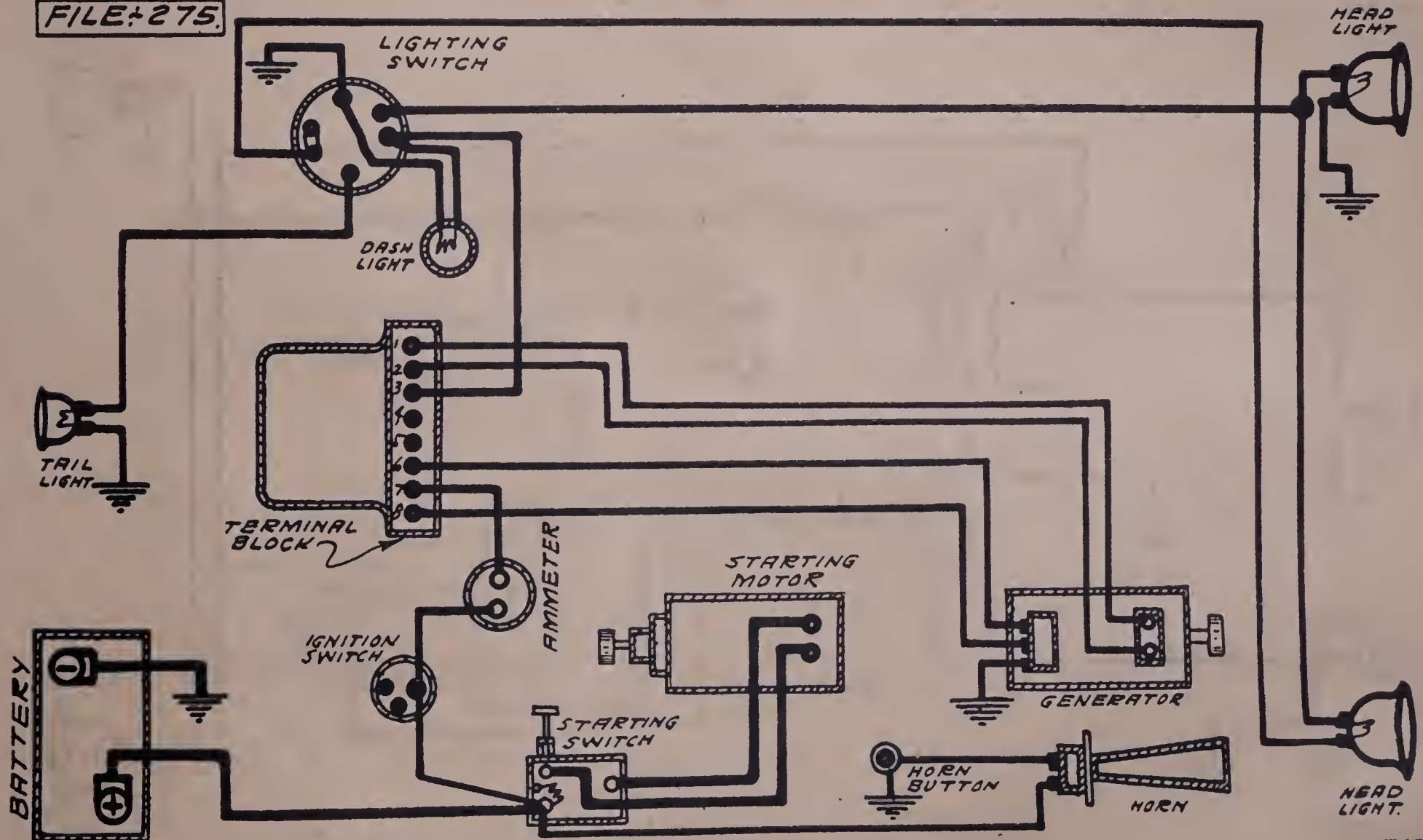


REGAL

1915

SERIAL NOS 1 to 1500. -MODEL-D,R,RR,RD.
6-VOLT, RUSHMORE SYSTEM.

FILE #275.

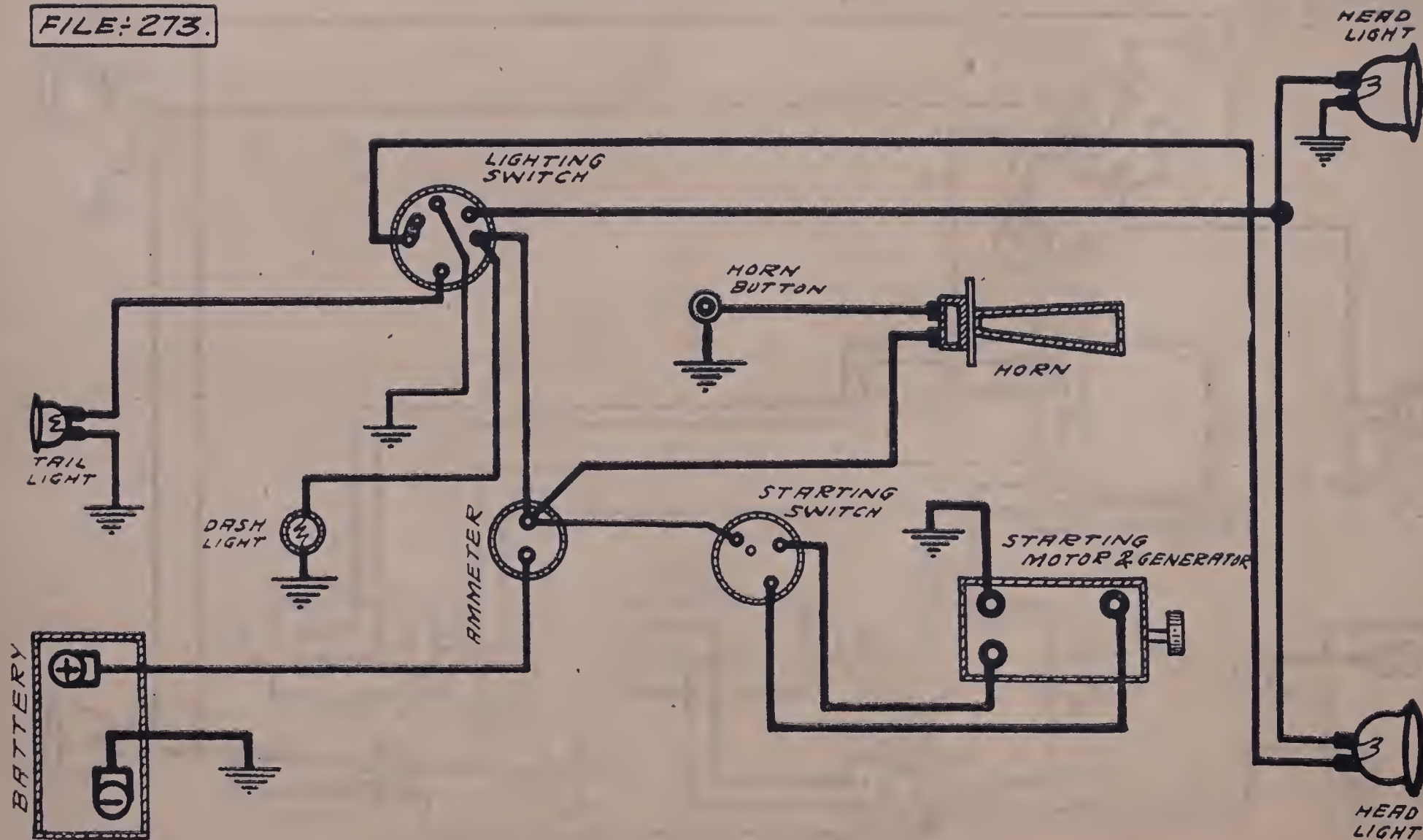


REGAL

1915

SERIAL NO 1500 & ABOVE.- MODEL D.
12-VOLT, DYNETO SYSTEM.

FILE: 273.



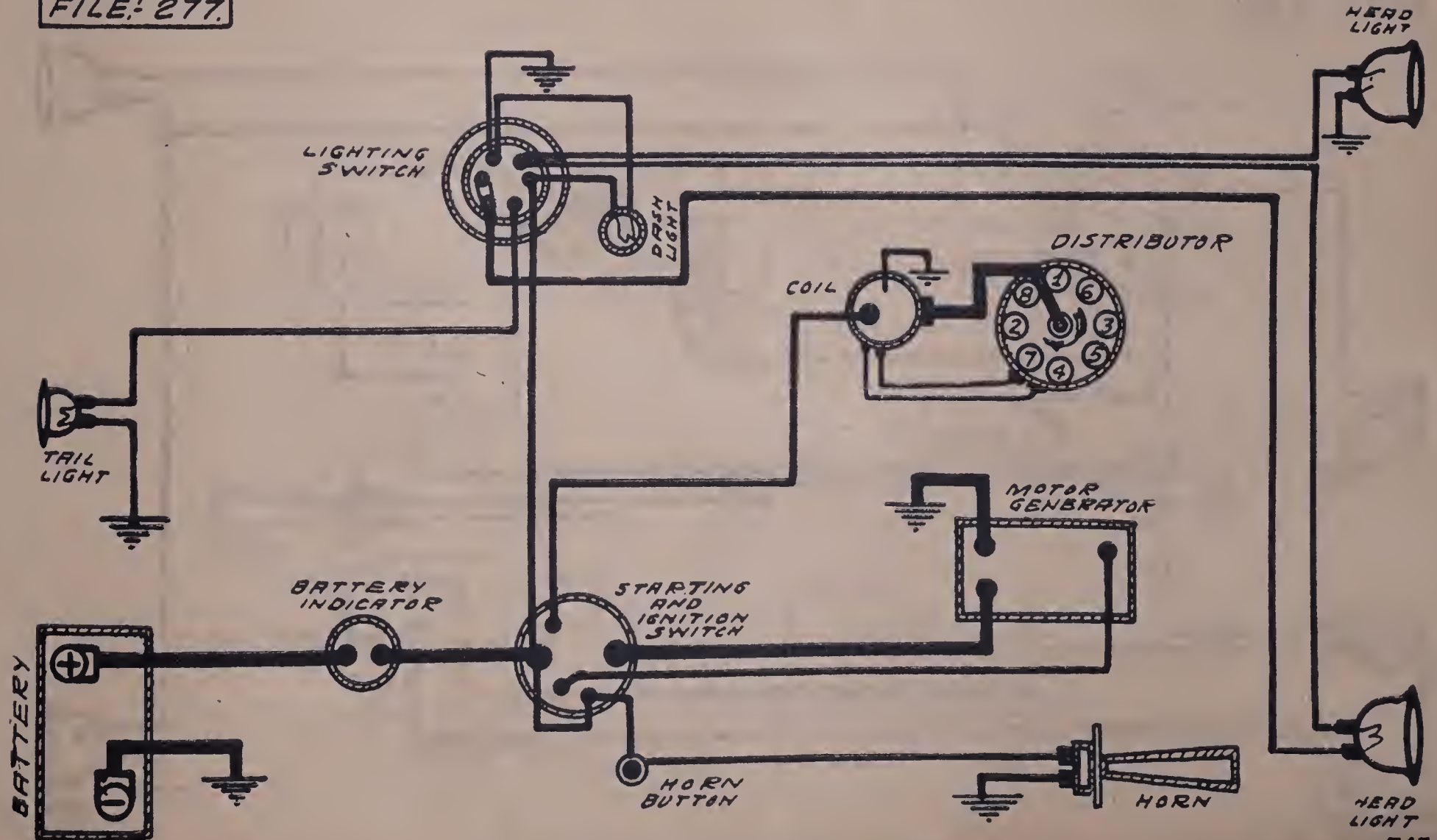
REGAL

1916

MODEL M-8

12-VOLT, DYNETO SYSTEM.

FILE: 277.



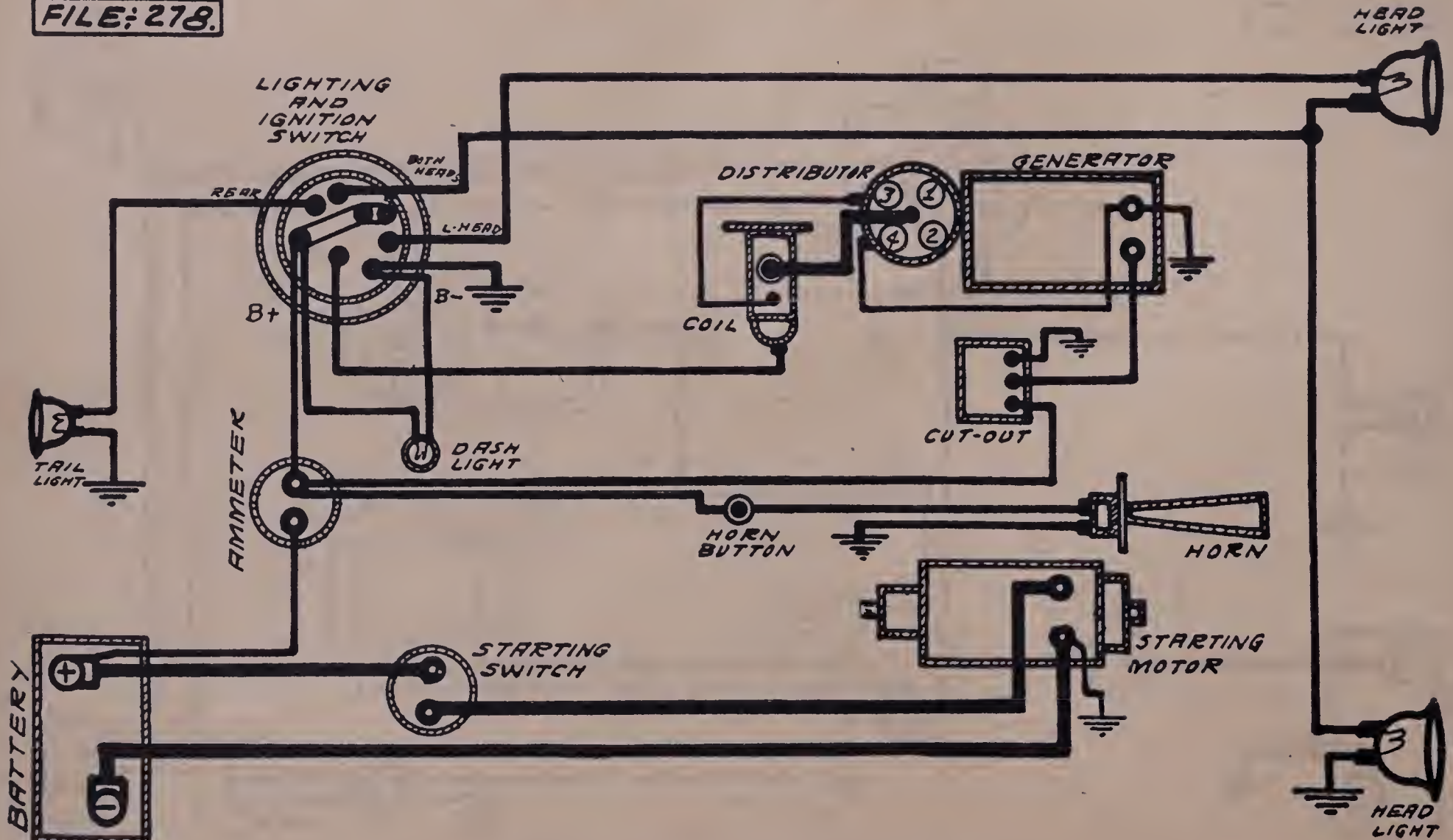
REGAL

1917-1918

MODEL F J

6-VOLT, AUTOLITE SYSTEM.

FILE: 278.



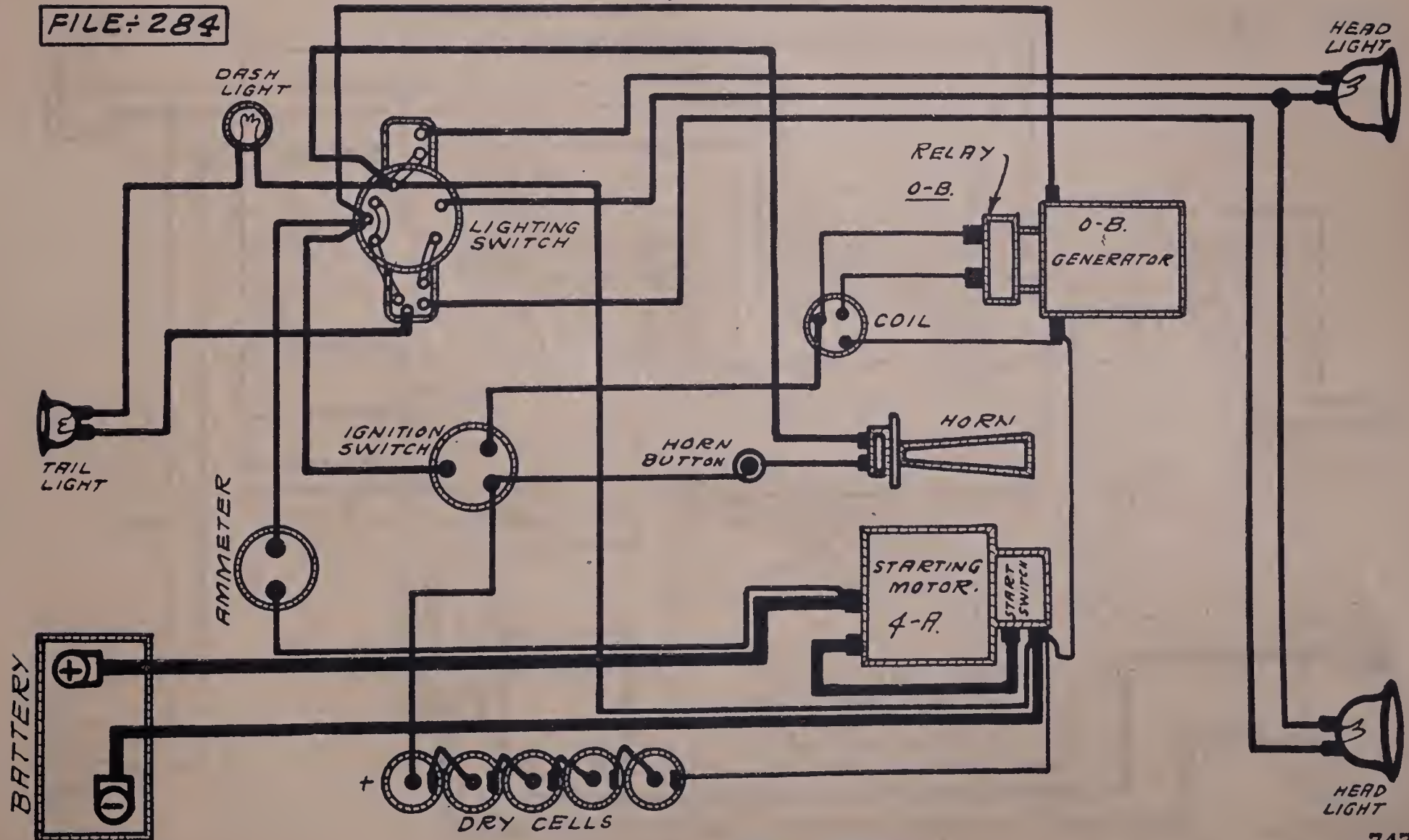
REO

1914

ALL MODELS

5-VOLT, - REMY SYSTEM.

FILE: 284



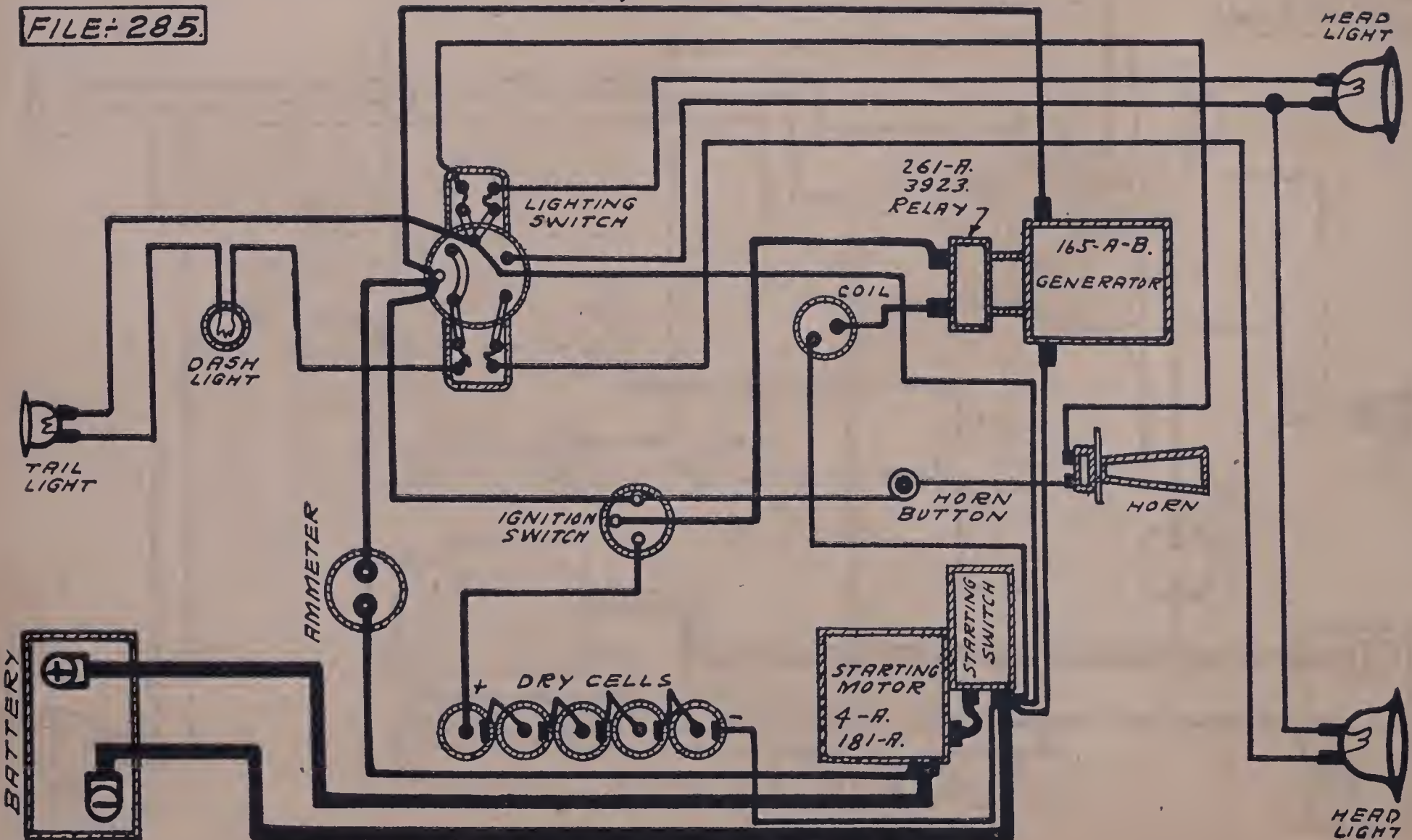
REO

1915

MODEL M, R.

6-VOLT, REMY SYSTEM.

FILE: 285.



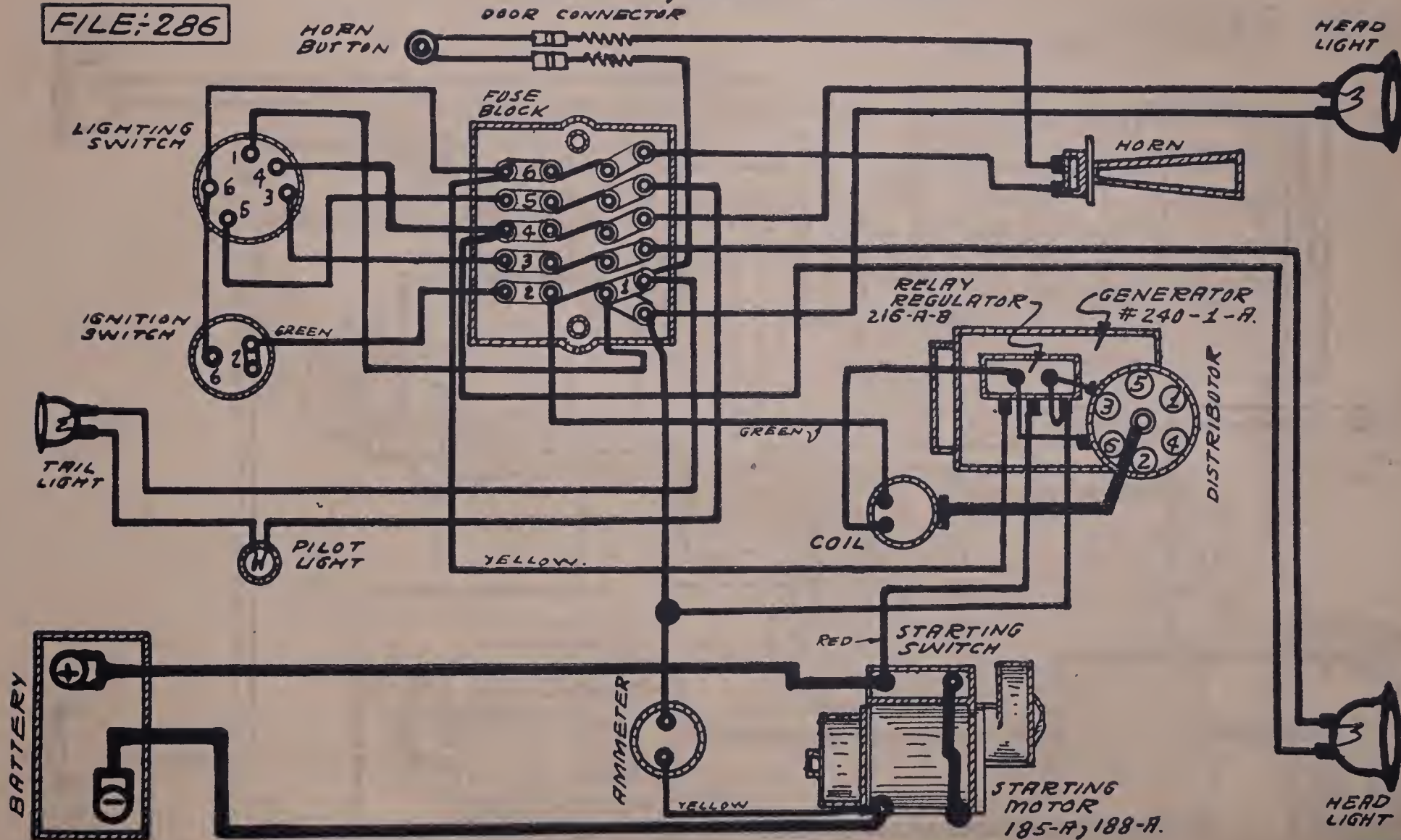
1916

REO

MODELS-M, R, S, U, N.

6-VOLT, REMY SYSTEM.

FILE: 286



REO

1917

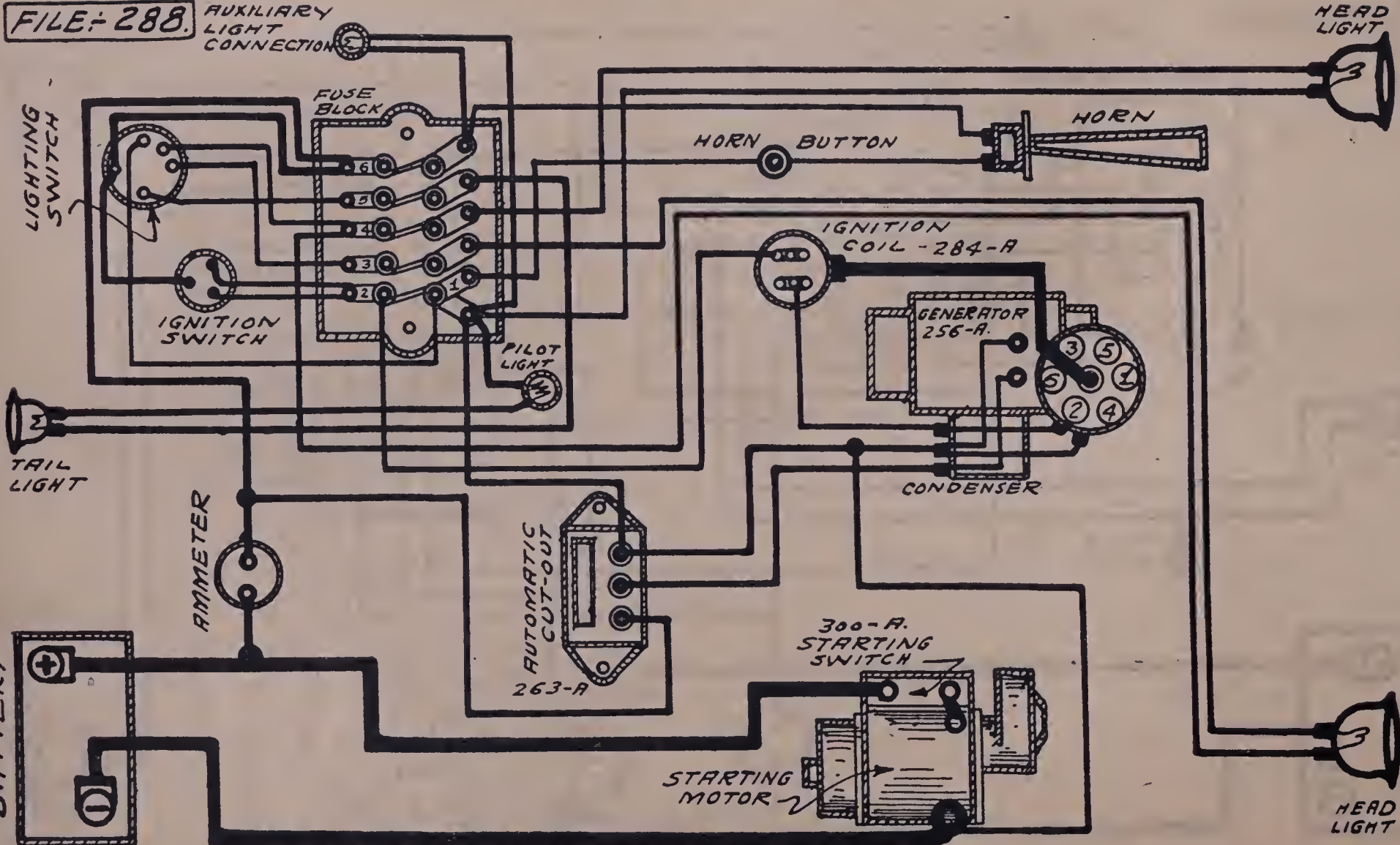
MODELS-M,N,R,S,F,T

6-VOLT, REMY SYSTEM.

FILE-288.

AUXILIARY
LIGHT
CONNECTION

HEAD
LIGHT



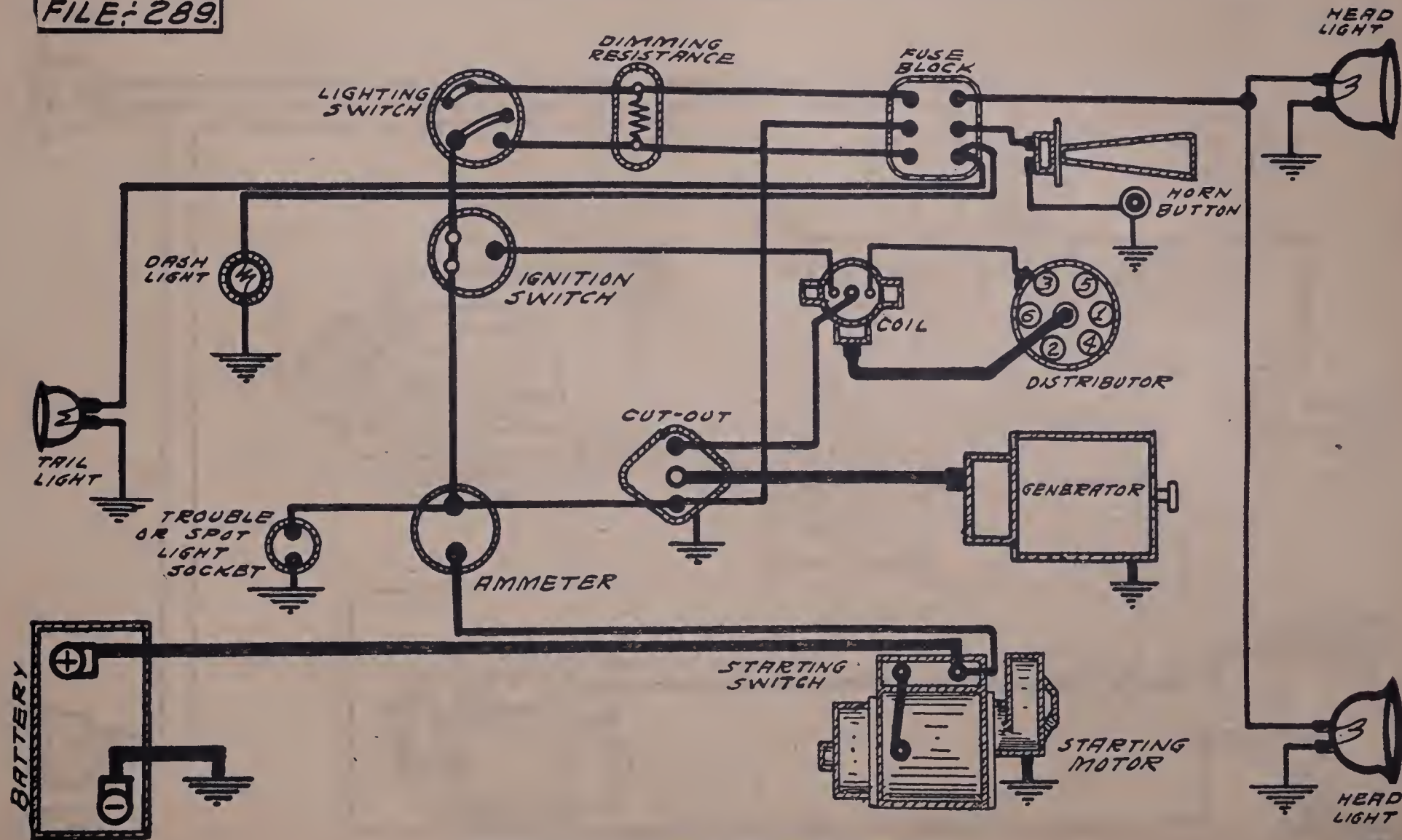
REO

1918-1919-1920

MODELS T6, U6.

6-VOLT, NORTHERST SYSTEM.

FILE: 289.



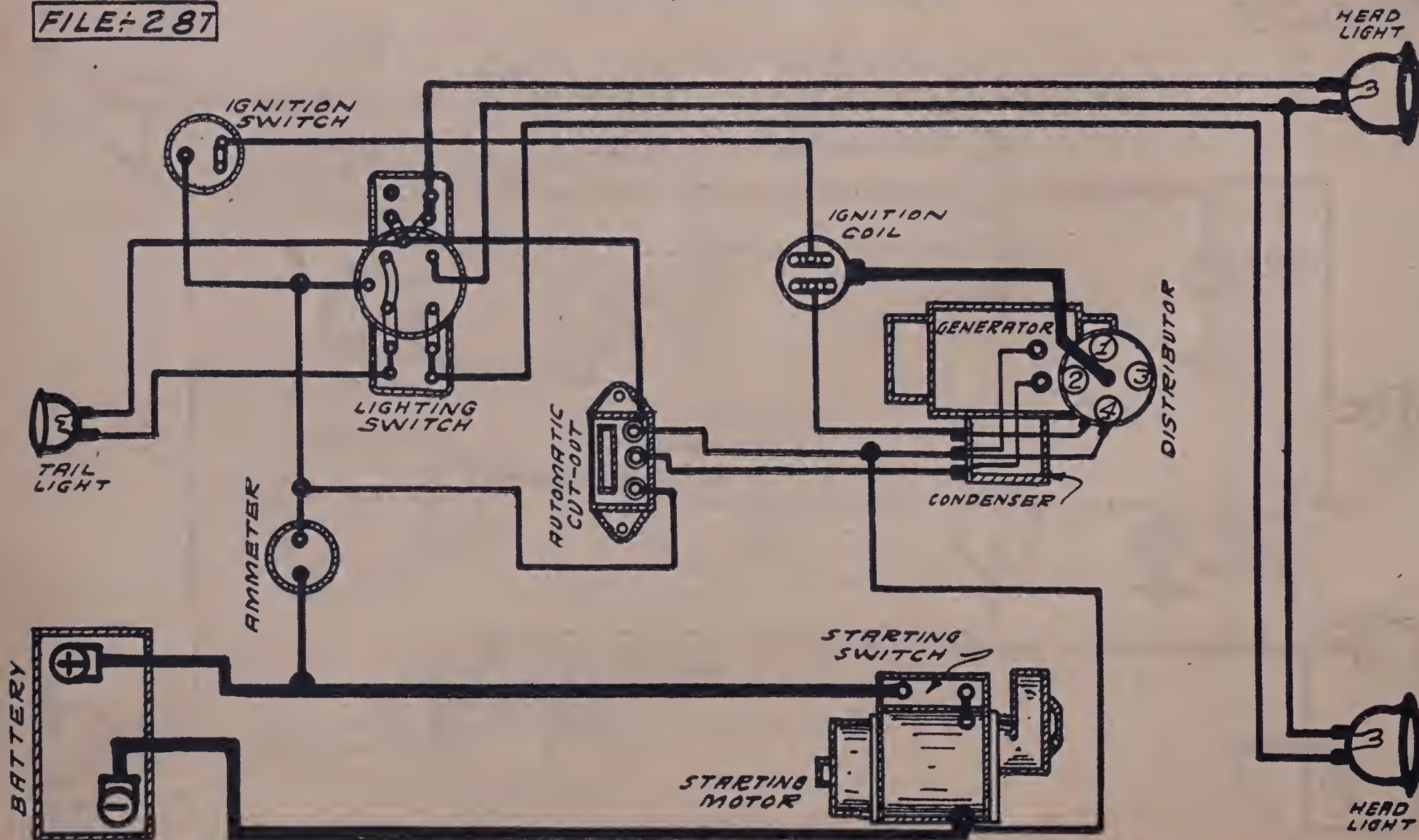
REO TRUCK

1917-1918, 1919, 1920

MODEL F.

6-VOLT, REMY SYSTEM.

FILE: 287

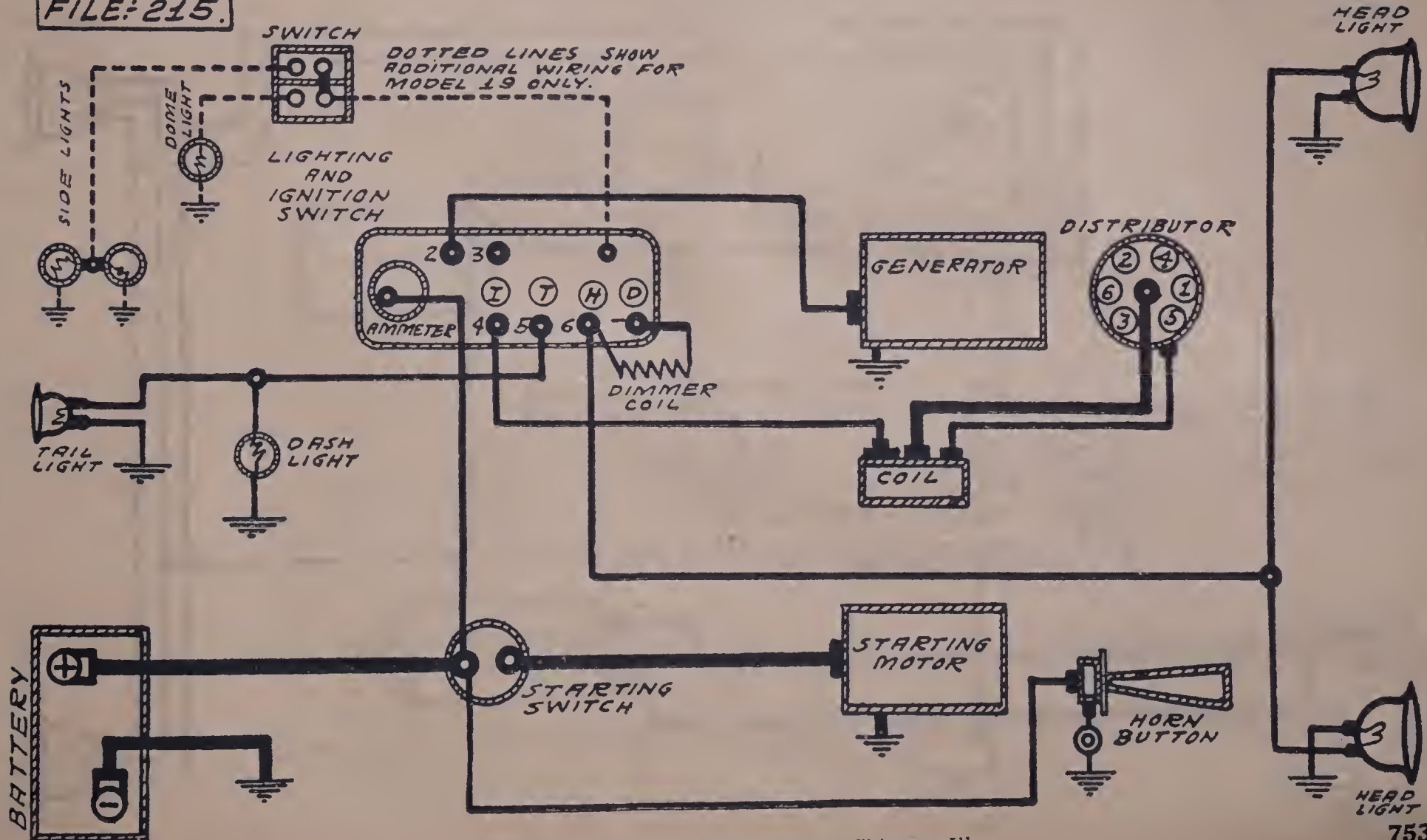


RIDDLE COACH & HEARSE CO.

1917 MODEL 1918-19, MOD.-19.

6-VOLT, -DELCO SYSTEM.

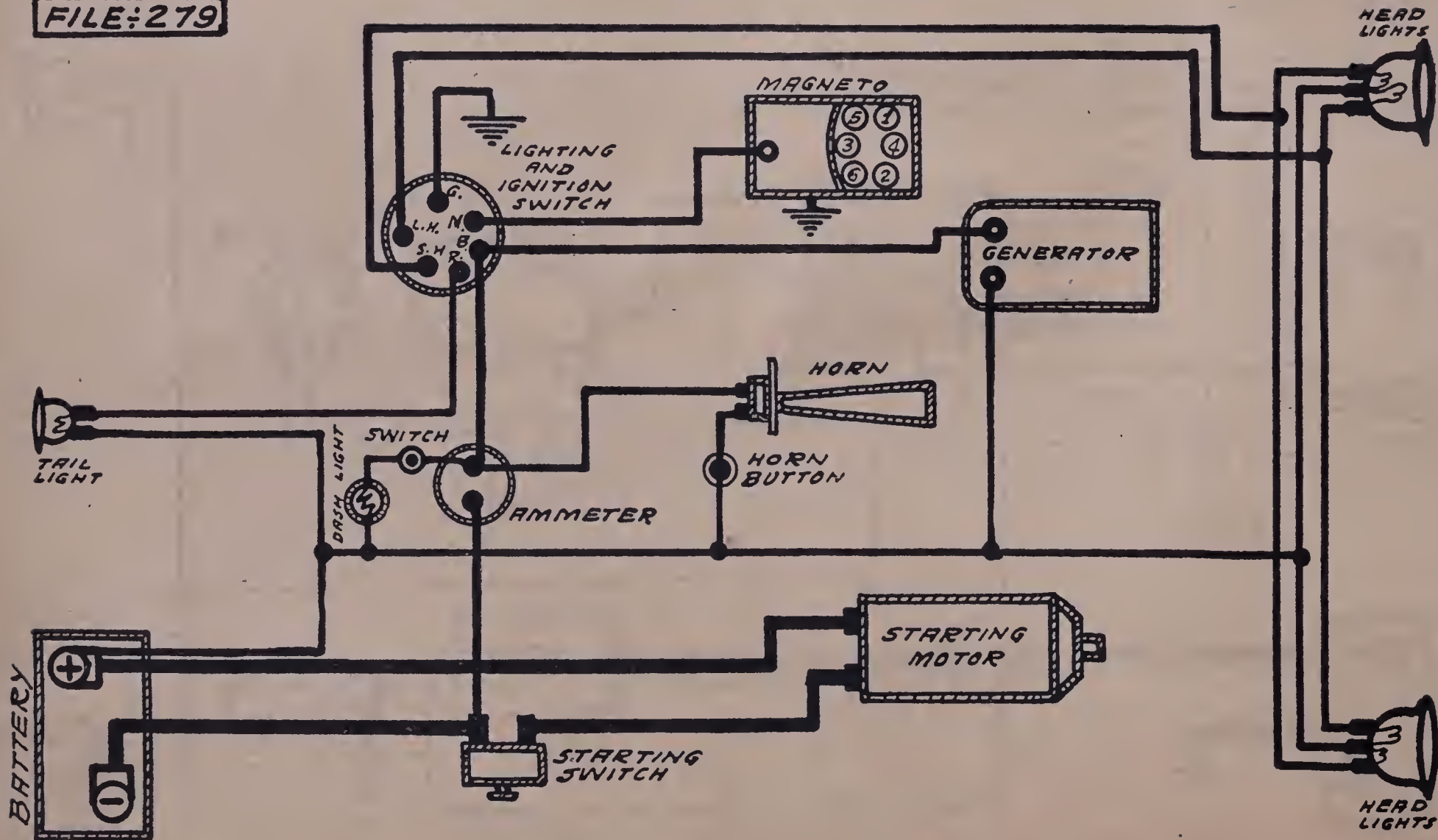
FILE: 215.



ROAMER

SERIAL NOS. 1-TO-13126.
6-VOLT, BIJUR SYSTEM.

FILE:279

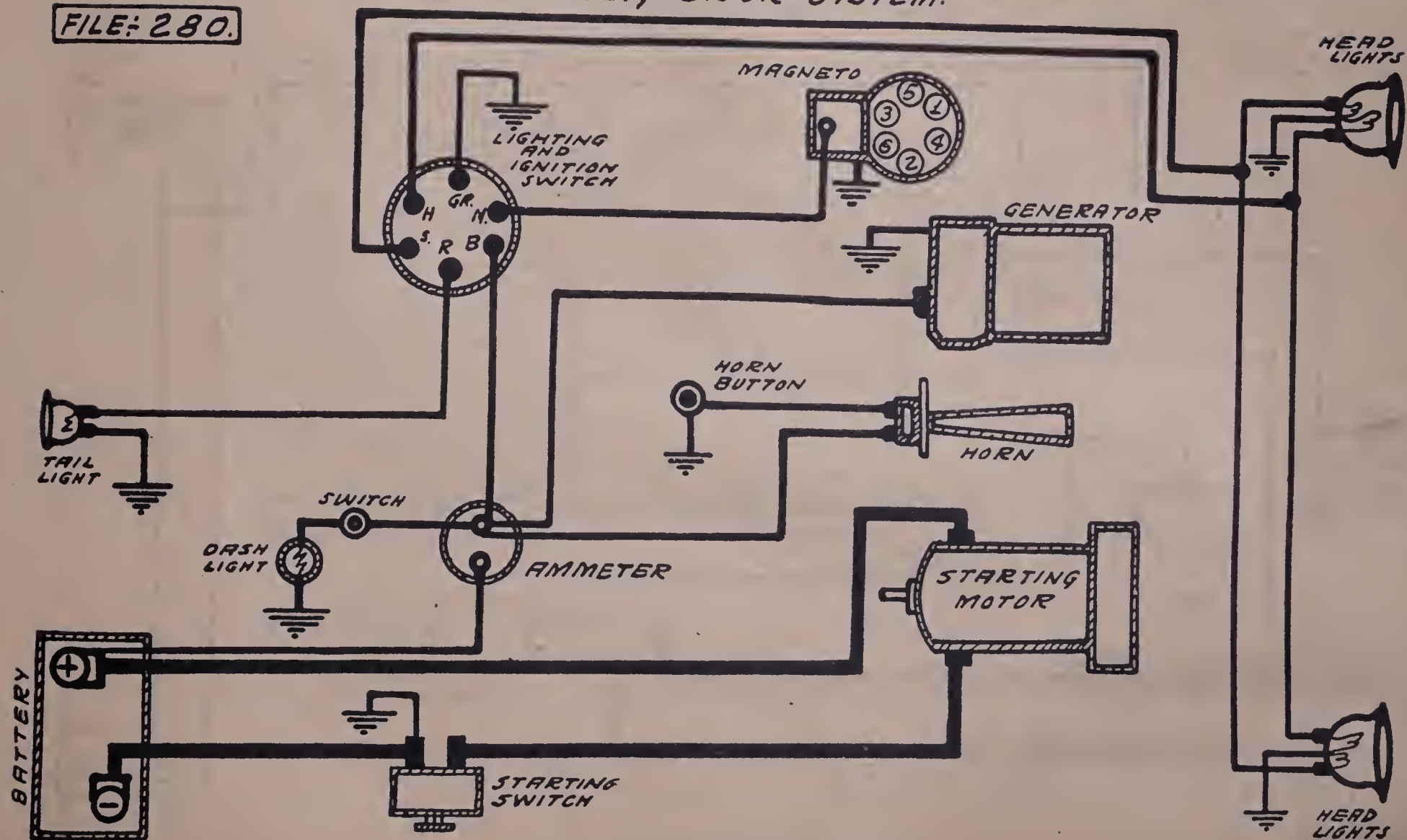


1917

ROAMER

- SERIAL NOS. 13127-TO-14004. - MODEL RA
6-VOLT, - BIJUR SYSTEM.

FILE: 280.



ROAMER

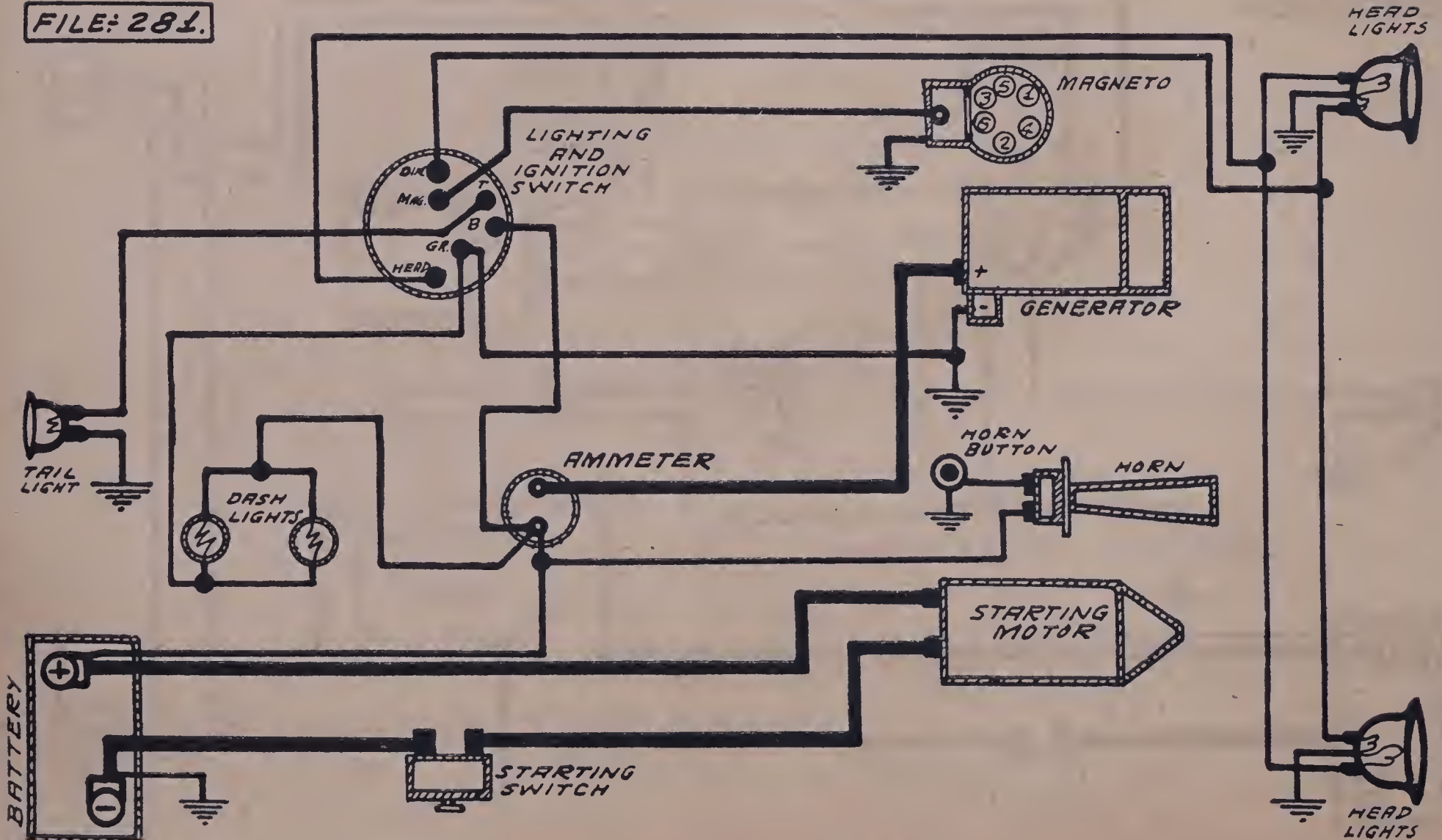
1917

SERIAL Nos 14005-70-15736

MODEL R.A, R.A.C.

6-VOLT, BIJUR SYSTEM.

FILE: 281.



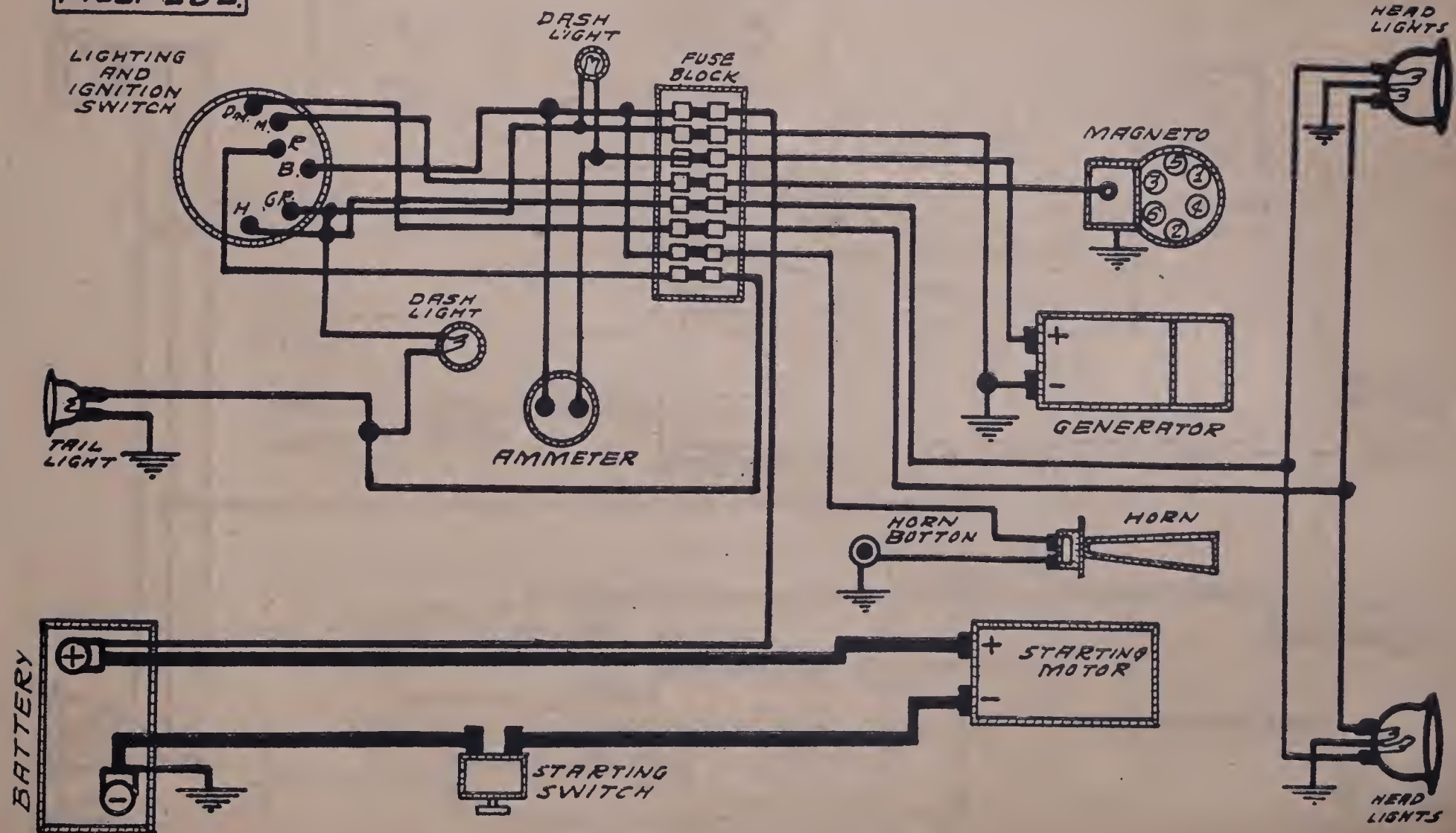
ROAMER

1918-19-20. SERIAL NOS. 15737-TO-

MODEL-D-4-75, C-6-54

6-VOLT, -BIJUR SYSTEM.

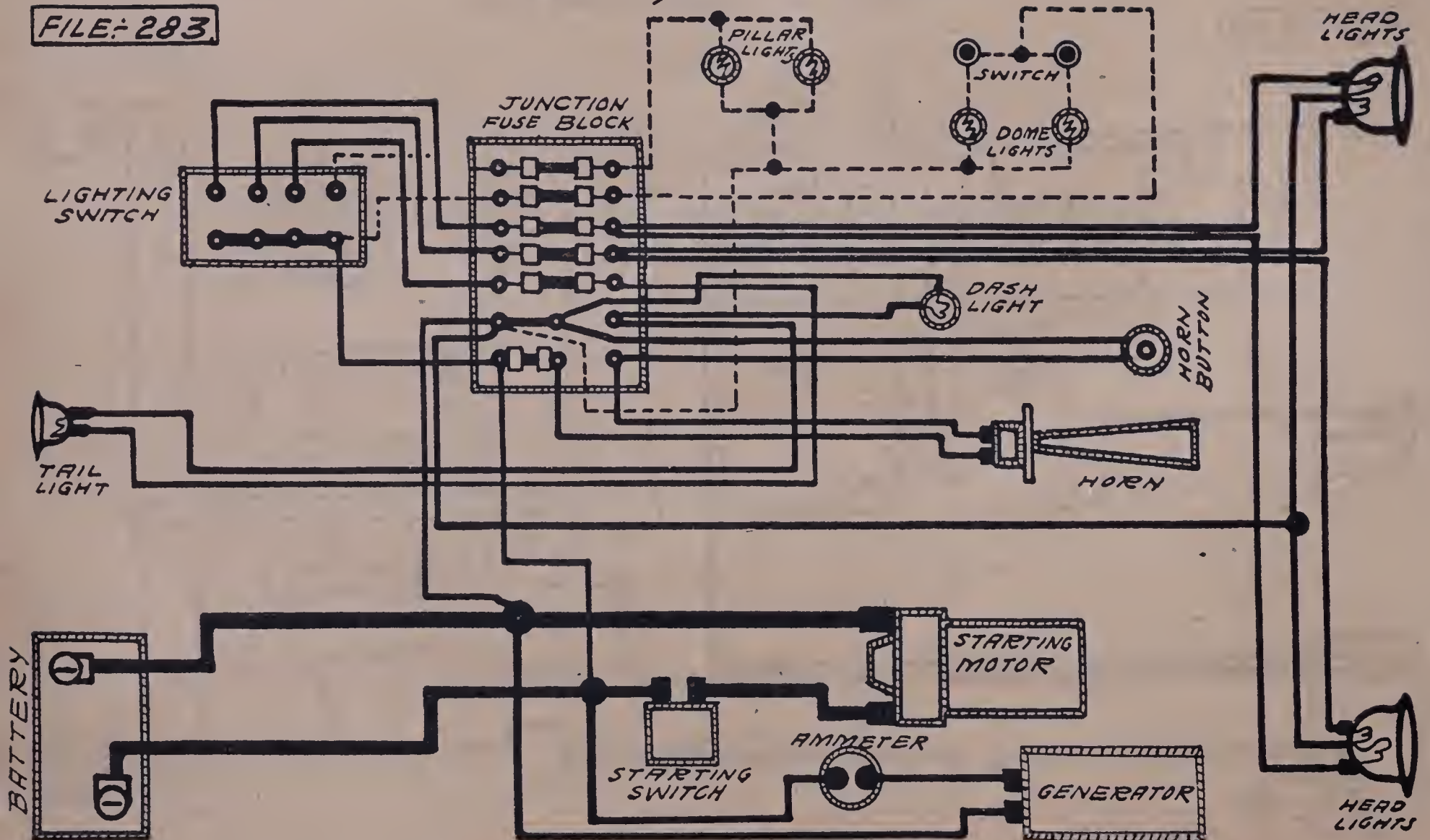
FILE# 282.



RUSSEL

MODELS: 32 AND 48
6-VOLT, BITUR SYSTEM.

FILE: 283



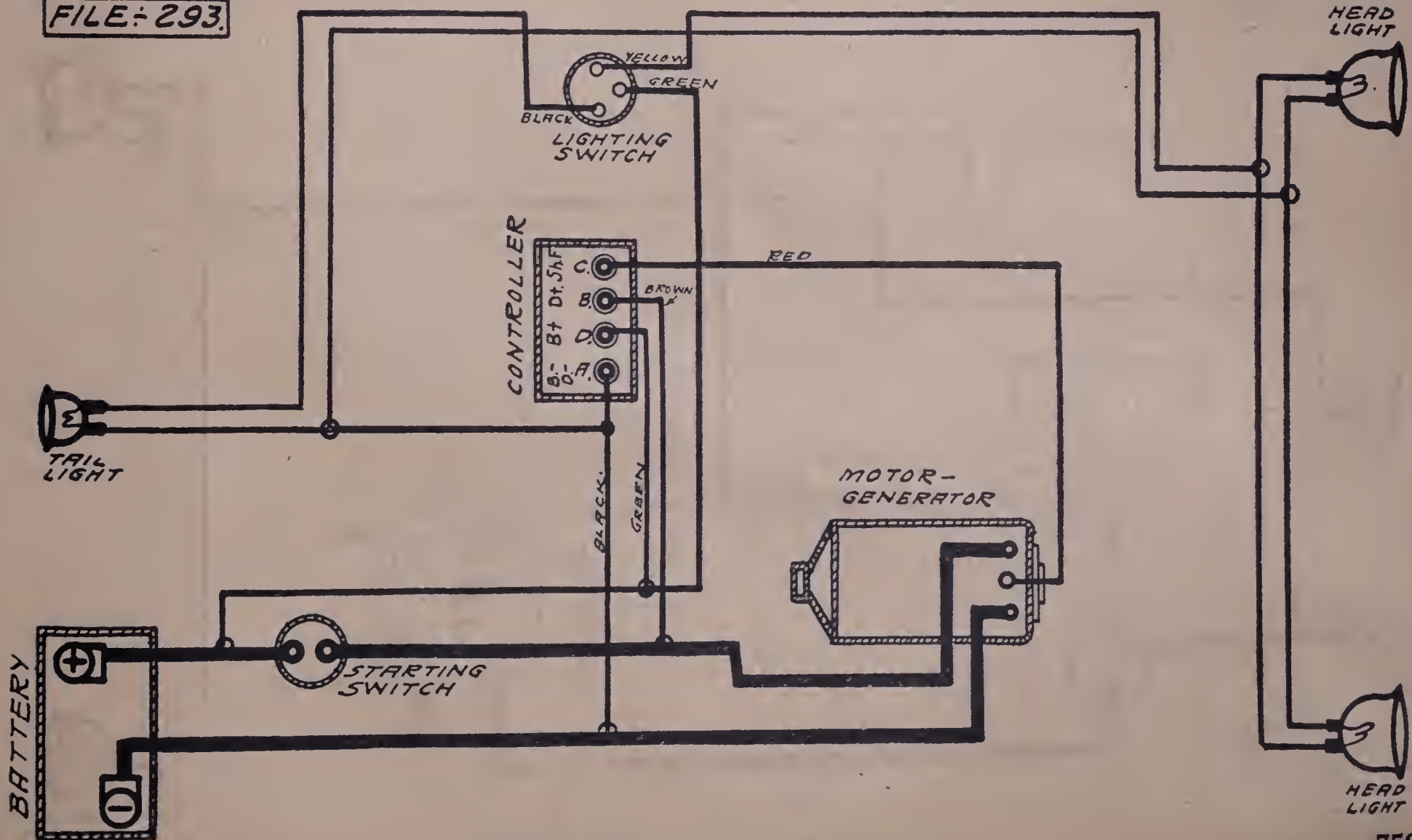
SAXON

1915

MODEL - FOUR.

6-VOLT, WARD-LEONARD SYSTEM.

FILE: 293.



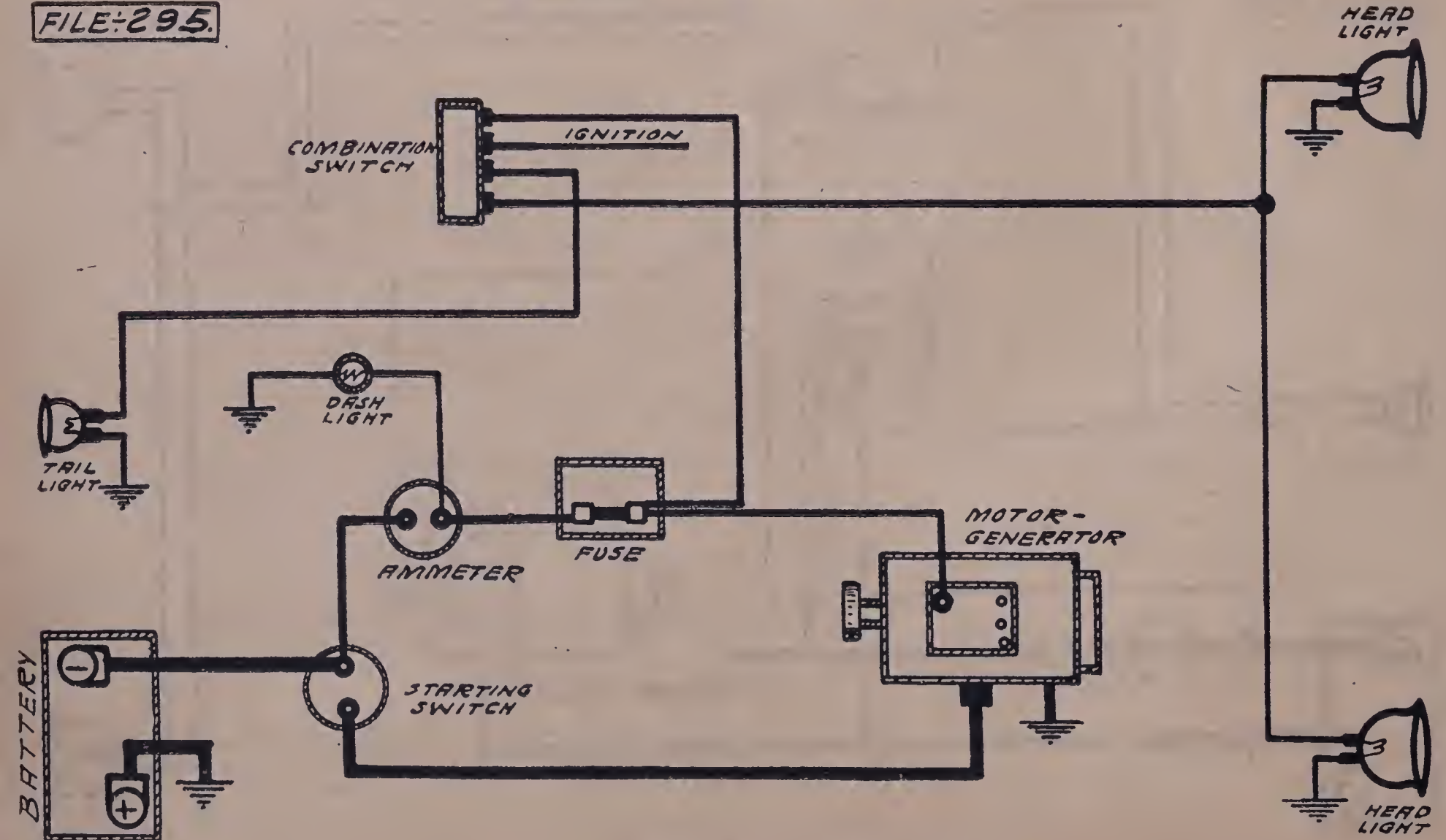
SAXON

1915

MODEL - S.

6-VOLT, GRAY & DAVIS SYSTEM.

FILE:295.

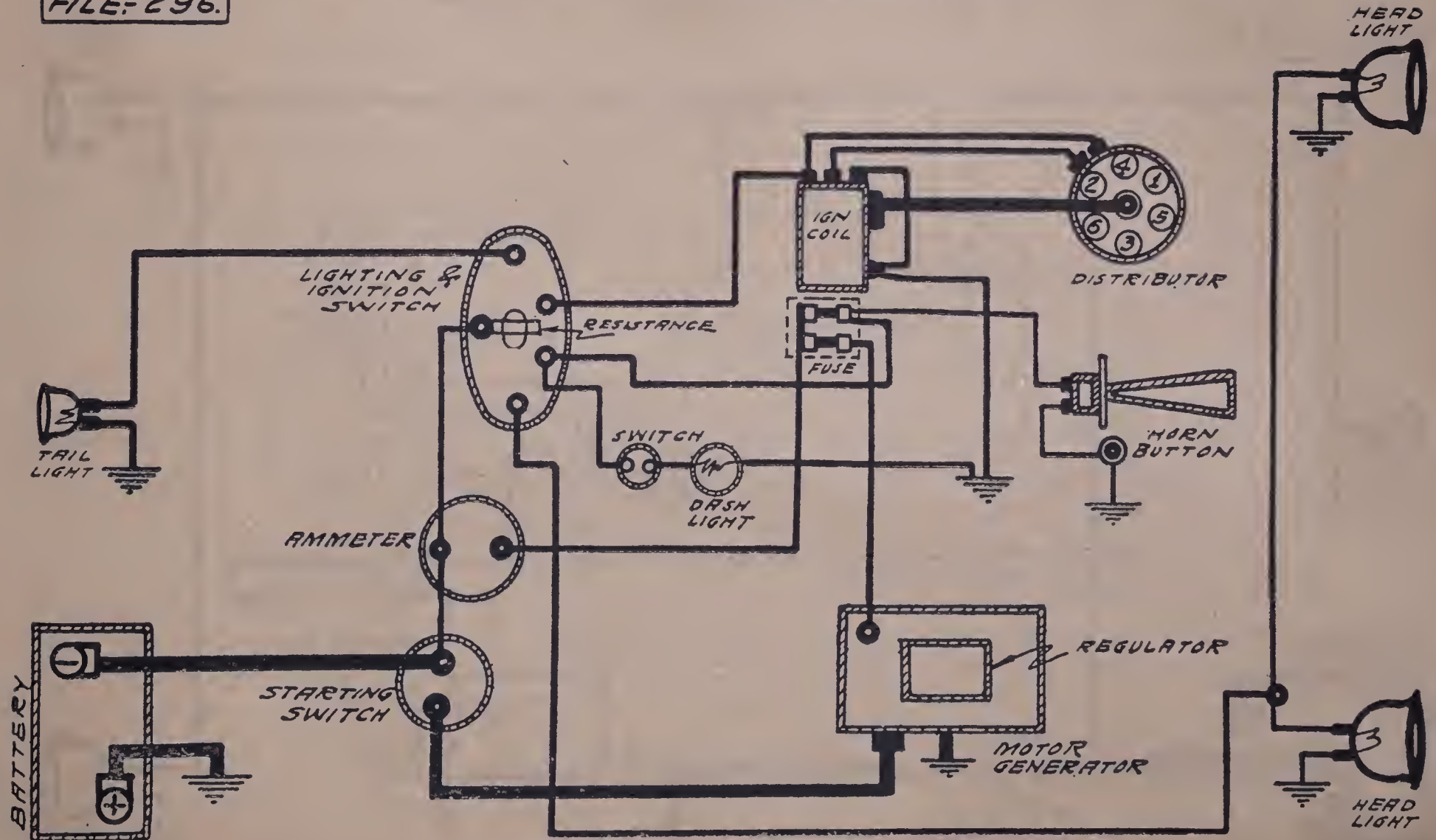


SAXON

1916 .

MODEL - S.
6-VOLT, GRAY & DAVIS SYSTEM.

FILE: 296.



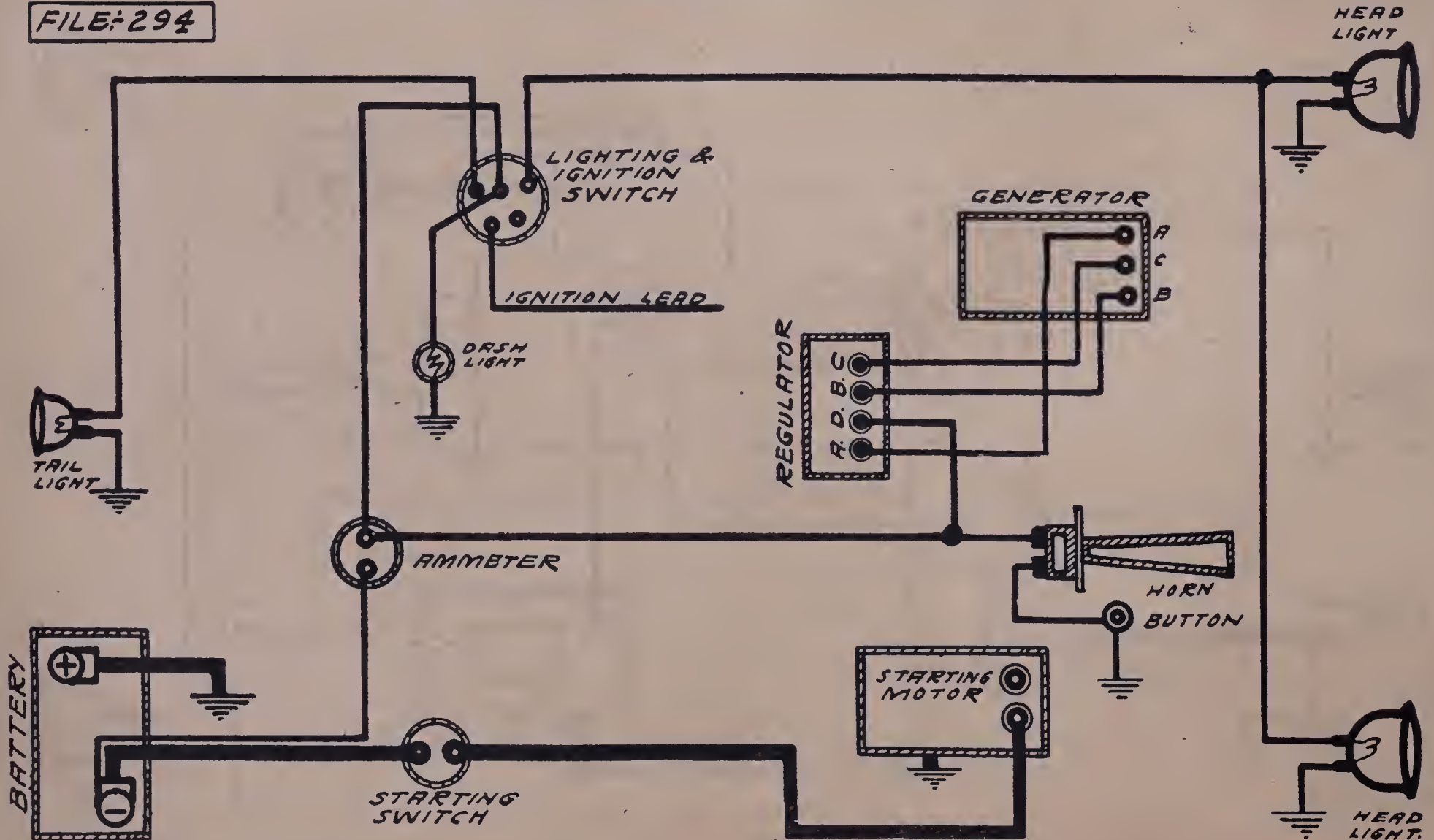
SAXON

1916

MODEL - 52

6-VOLT, WARD-LEONARD SYSTEM.

FILE: 294



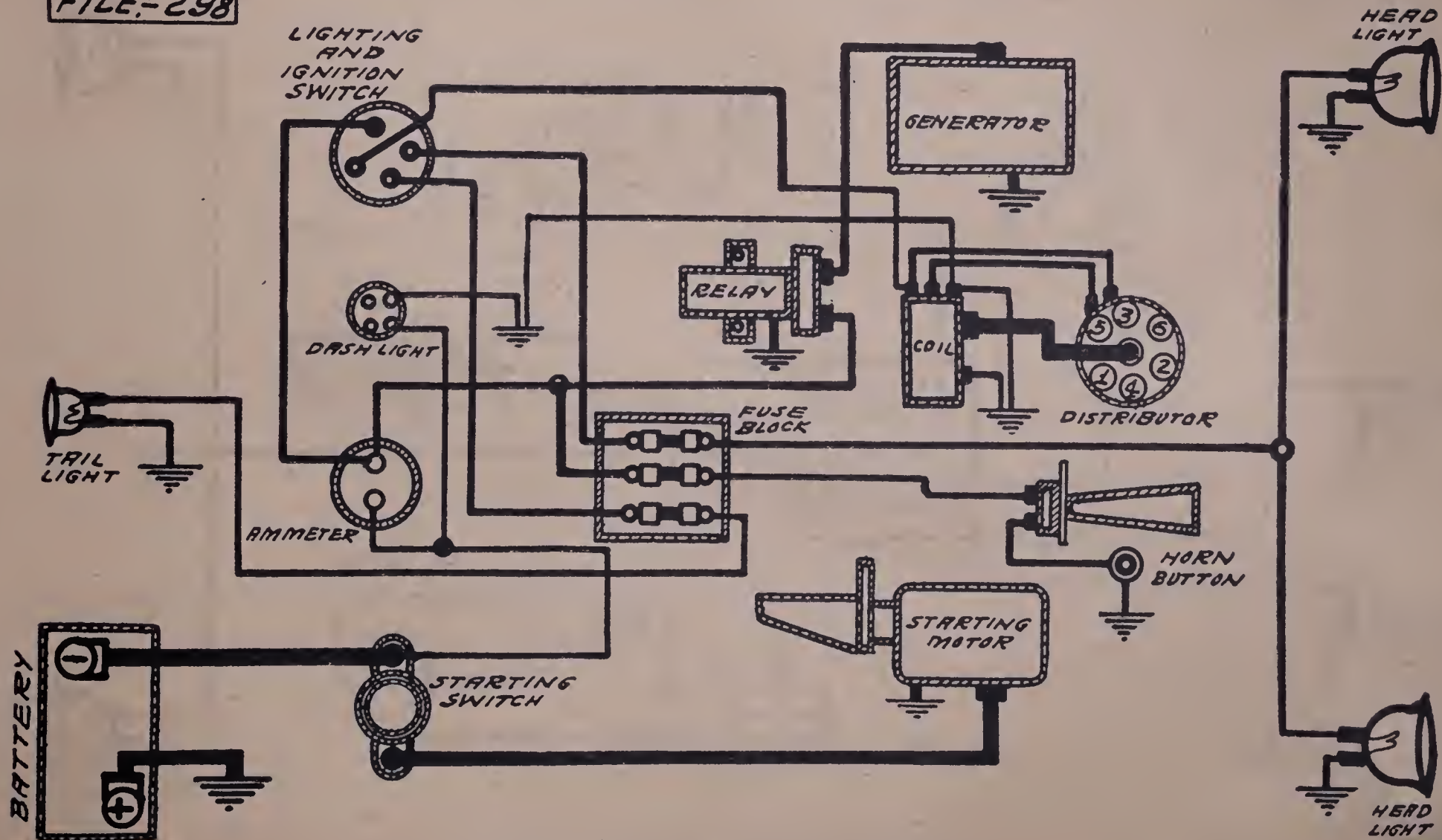
SAXON

1916

MODEL - S2, S2R.

6-VOLT, -WAGNER SYSTEM.

FILE:-298

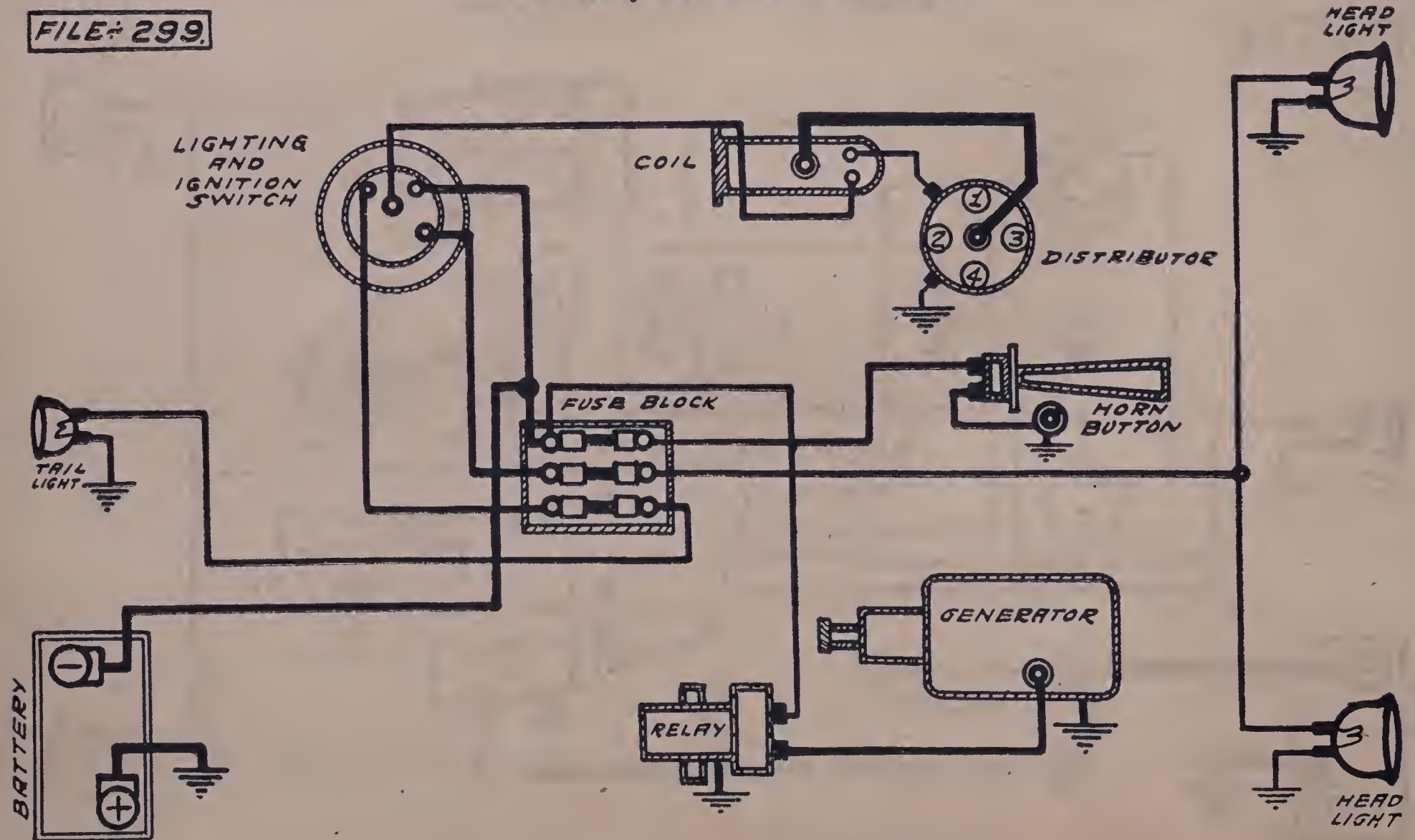


SAXON

1917

MODEL FOUR
6-VOLT, WAGNER SYSTEM.

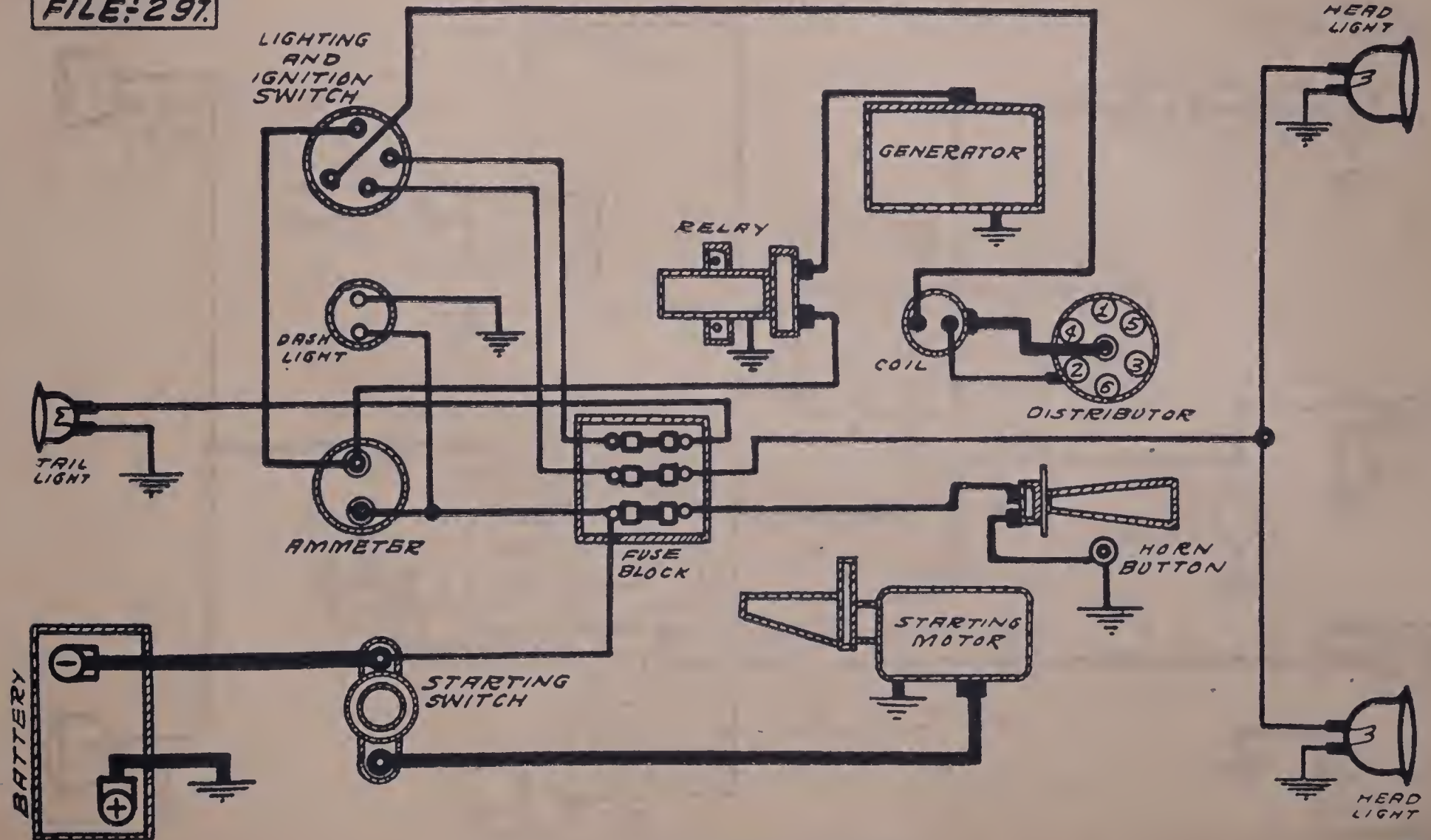
FILE # 299.



SAXON

1917-MODEL -54, 54R, 54S 1918-MODEL Y-18. 1919-MODEL-Y18T.
6-VOLT, WAGNER SYSTEM.

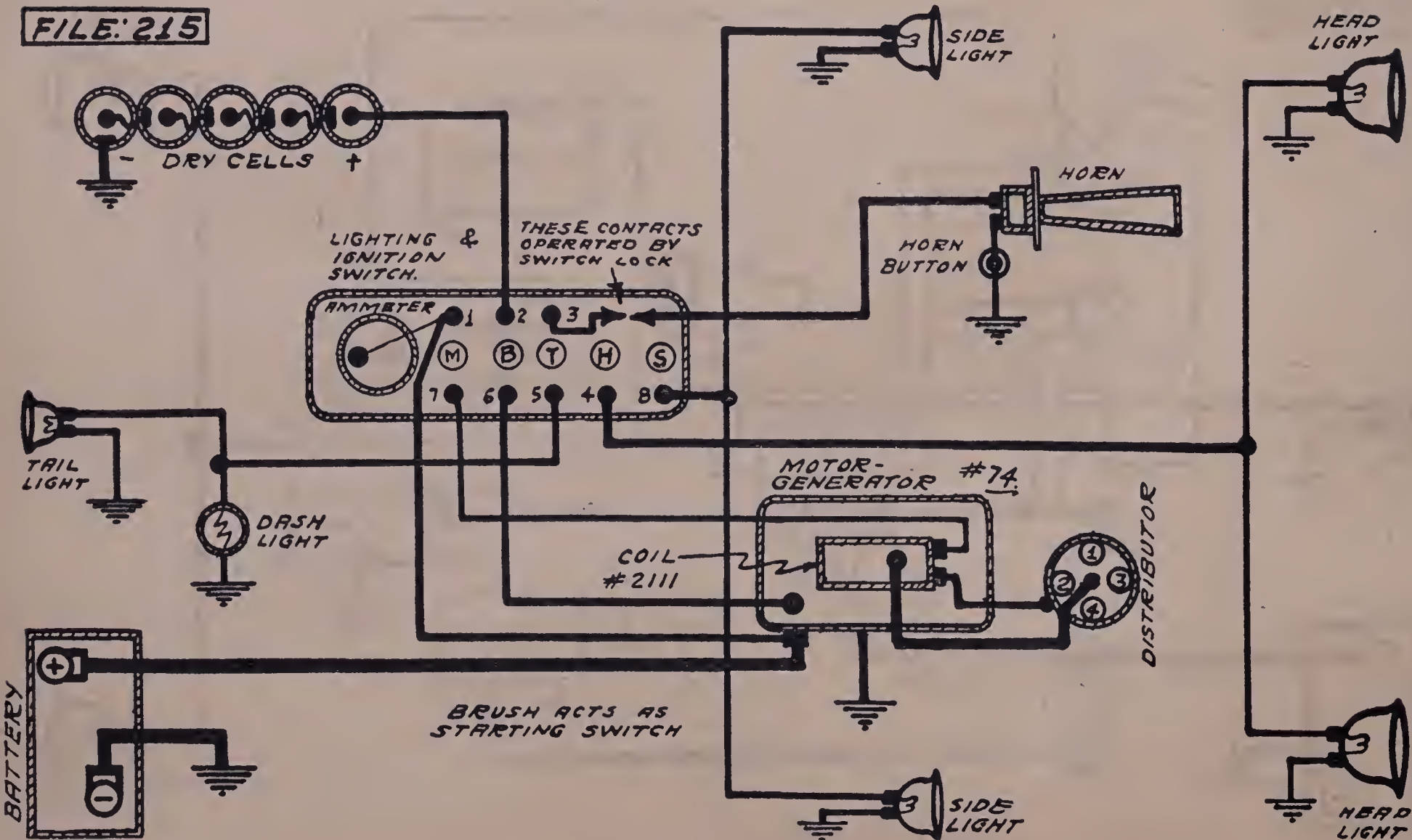
FILE: 297.



6-VOLT, DELCO SYSTEM.

MODEL 4.

A diagram showing a series circuit. It consists of four dry cells connected in series, represented by four circles with a '+' sign on the right and a '-' sign on the left. Below the dry cells is a battery symbol, represented by a long vertical line and a shorter, thicker vertical line. The text "DRY CELLS" is written below the dry cells.



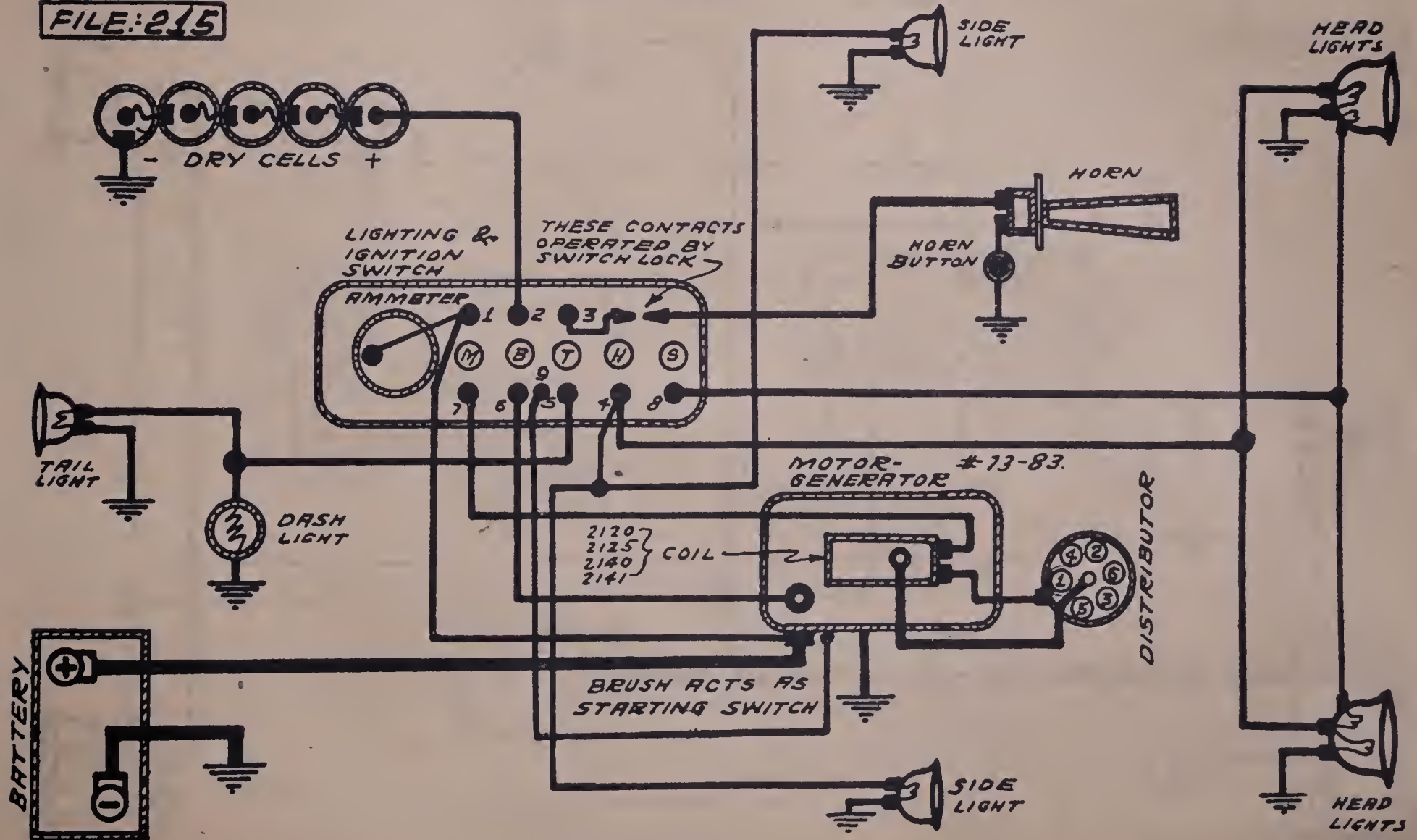
1916

SAYERS AND SCOVILL

MODEL 6.

6-VOLT, DELCO SYSTEM.

FILE: 215



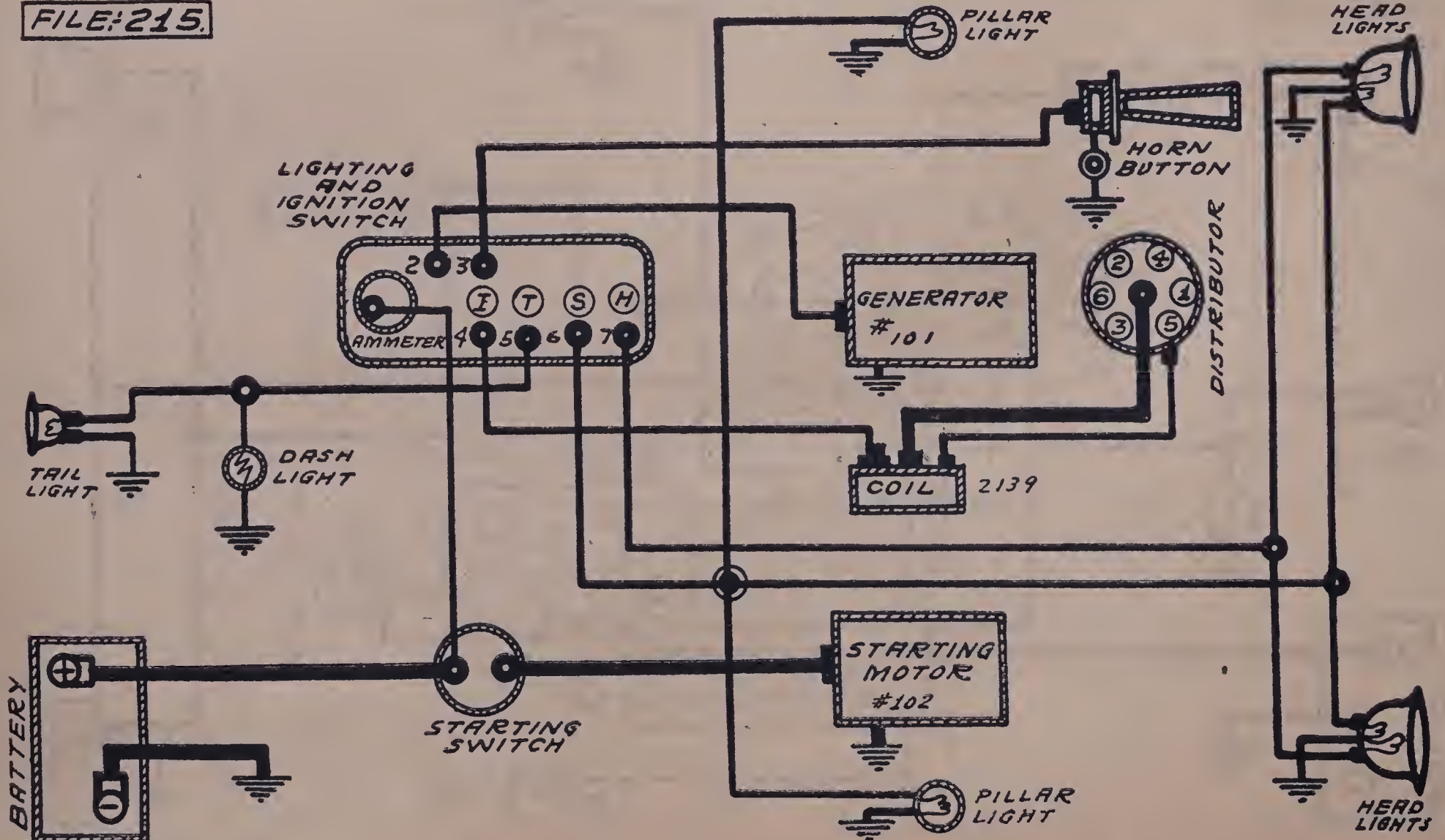
SAYERS & SCOVILL

1917 MODEL

1918-1919, MODEL

6 VOLT, - DELCO SYSTEM.

FILE: 215.



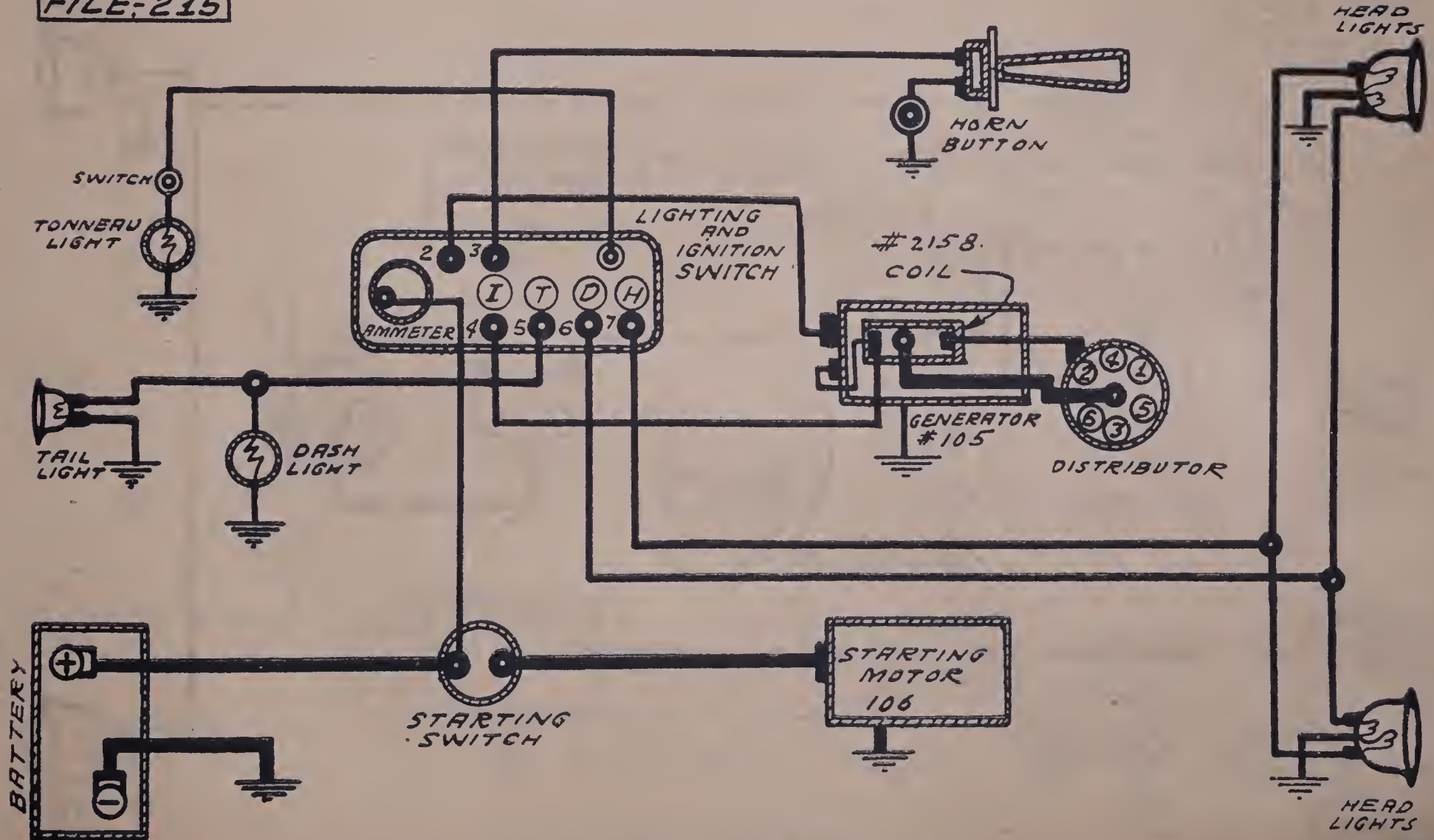
1918-1919.

SAYERS & SCOVILL

MODEL TOURING

6-VOLT, DELCO SYSTEM.

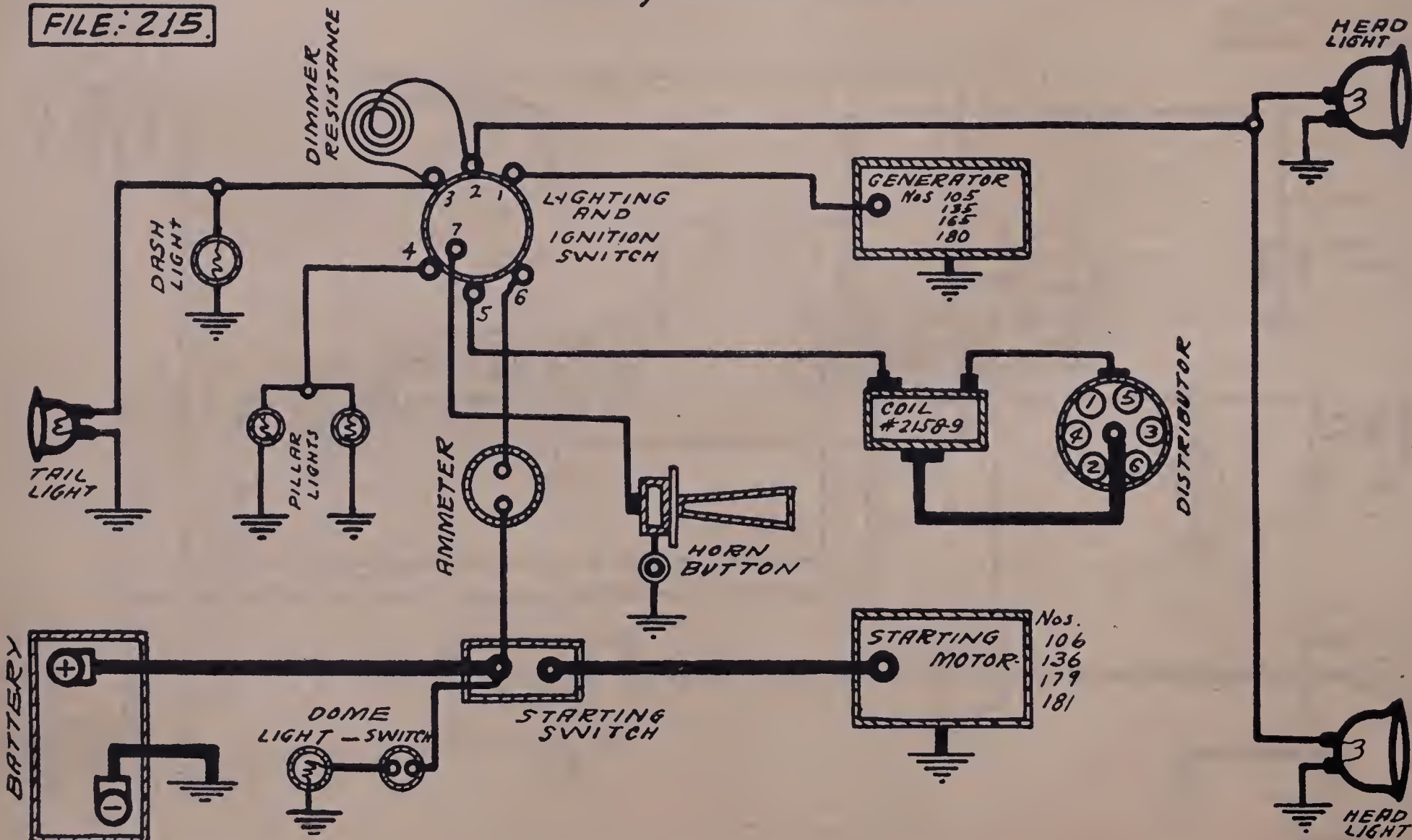
FILE: 215



SAYERS & SCOVILL

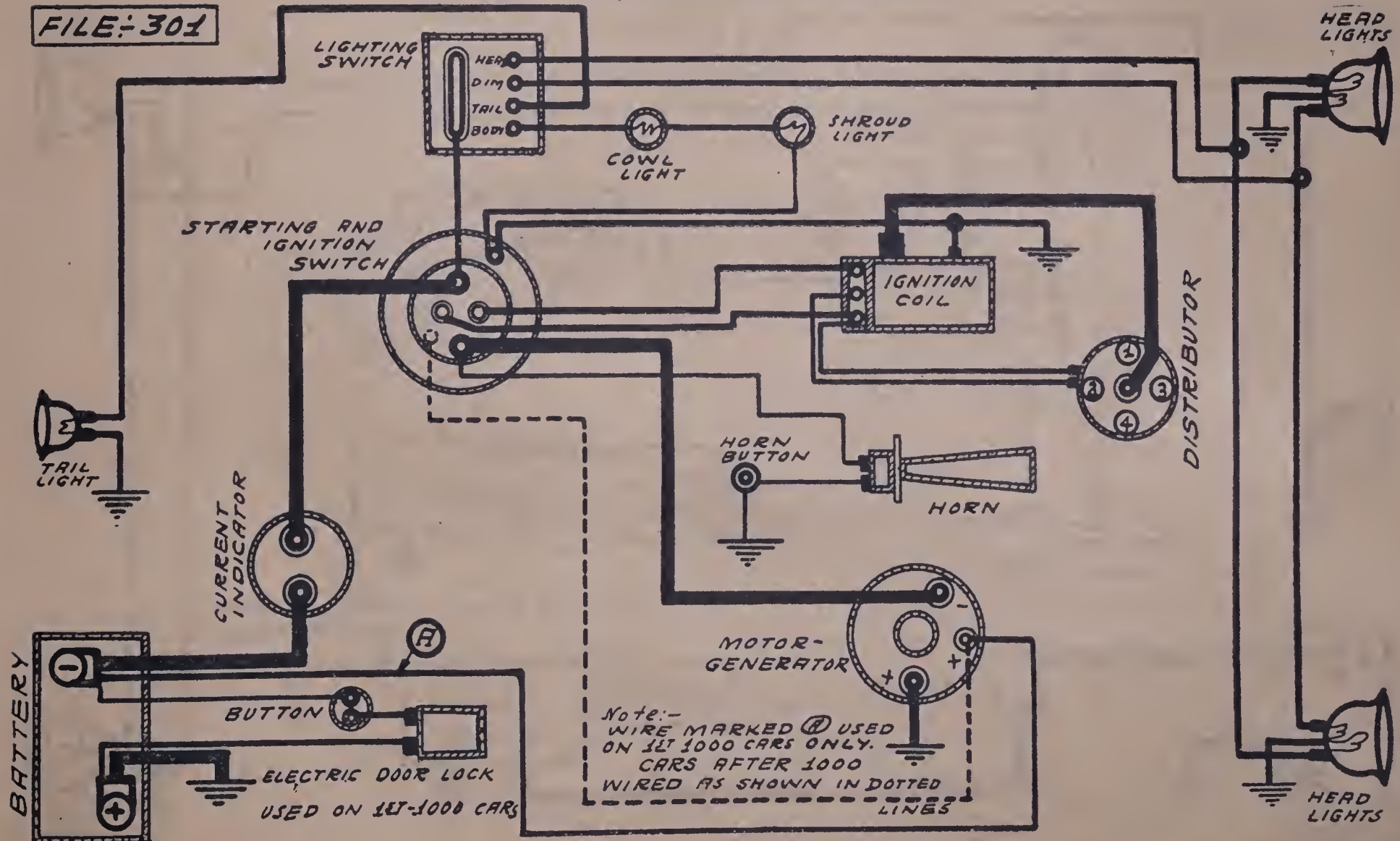
1919-1920 MODELS. USING 7-R, -W, 9-N, CONTINENTAL ENGINES.
6-VOLT, -DELCO SYSTEM.

FILE: 215.



SCRIPPS-BOOTH

1915 - MODEL
12-VOLT, BIJUR SYSTEM.



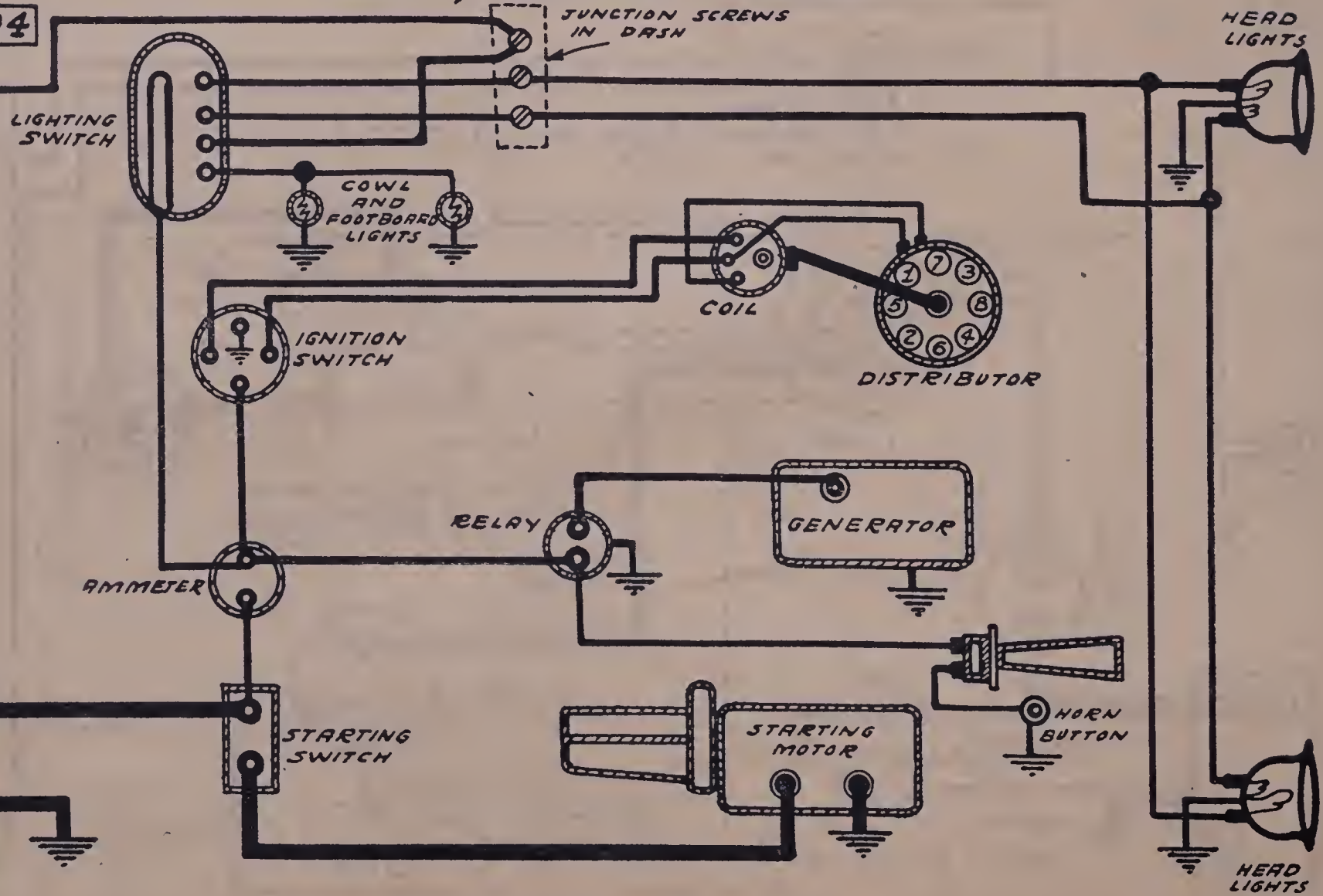
SCRIPPS-BOOTH

1916-1917-1918

MODELS 8, C.D.H.

6-VOLT, WAGNER SYSTEM.

FILE: 304



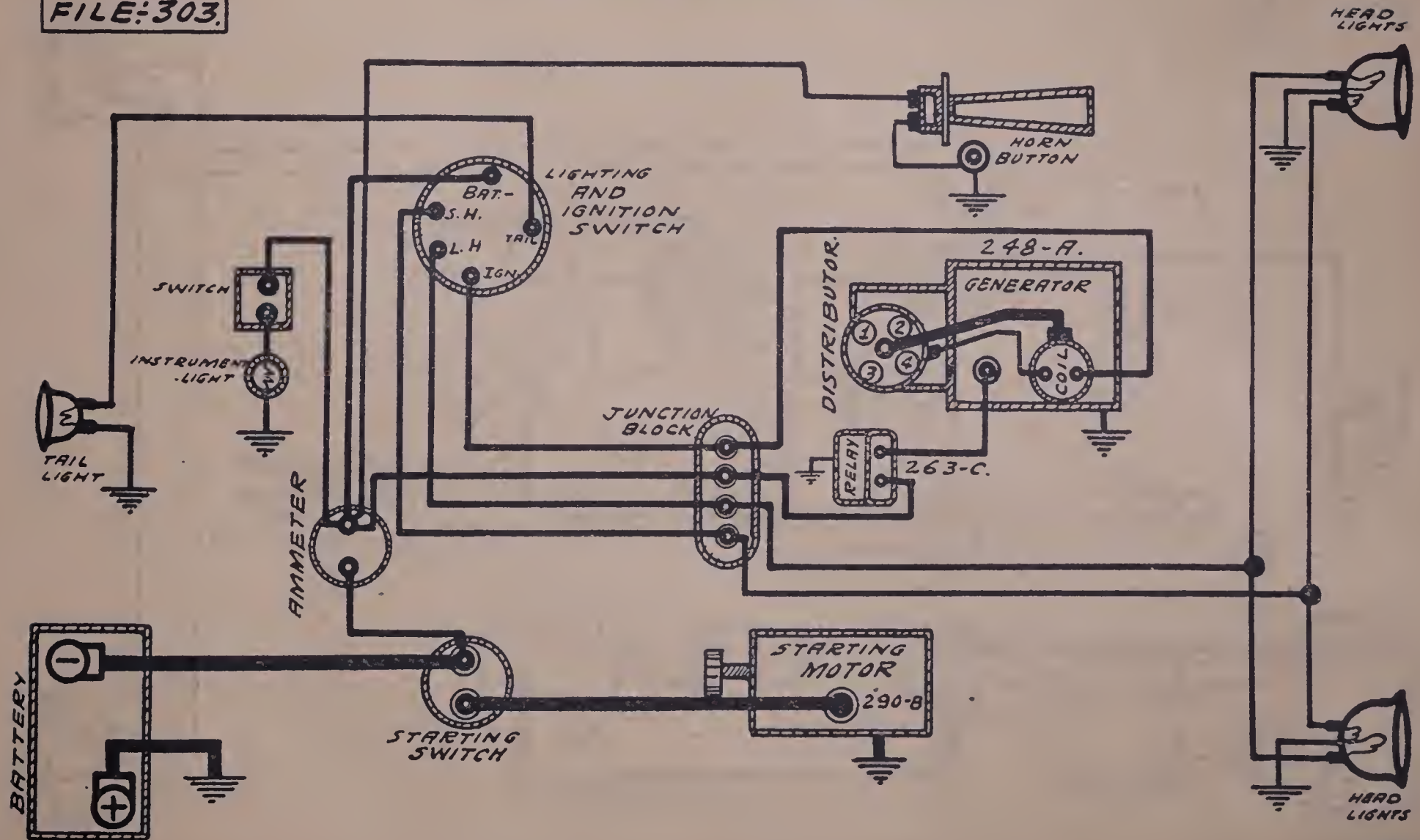
SCRIPPS-BOOTH.

1917-1918-1919

MODEL G.

6-VOLT, - REMY SYSTEM.

FILE:303.



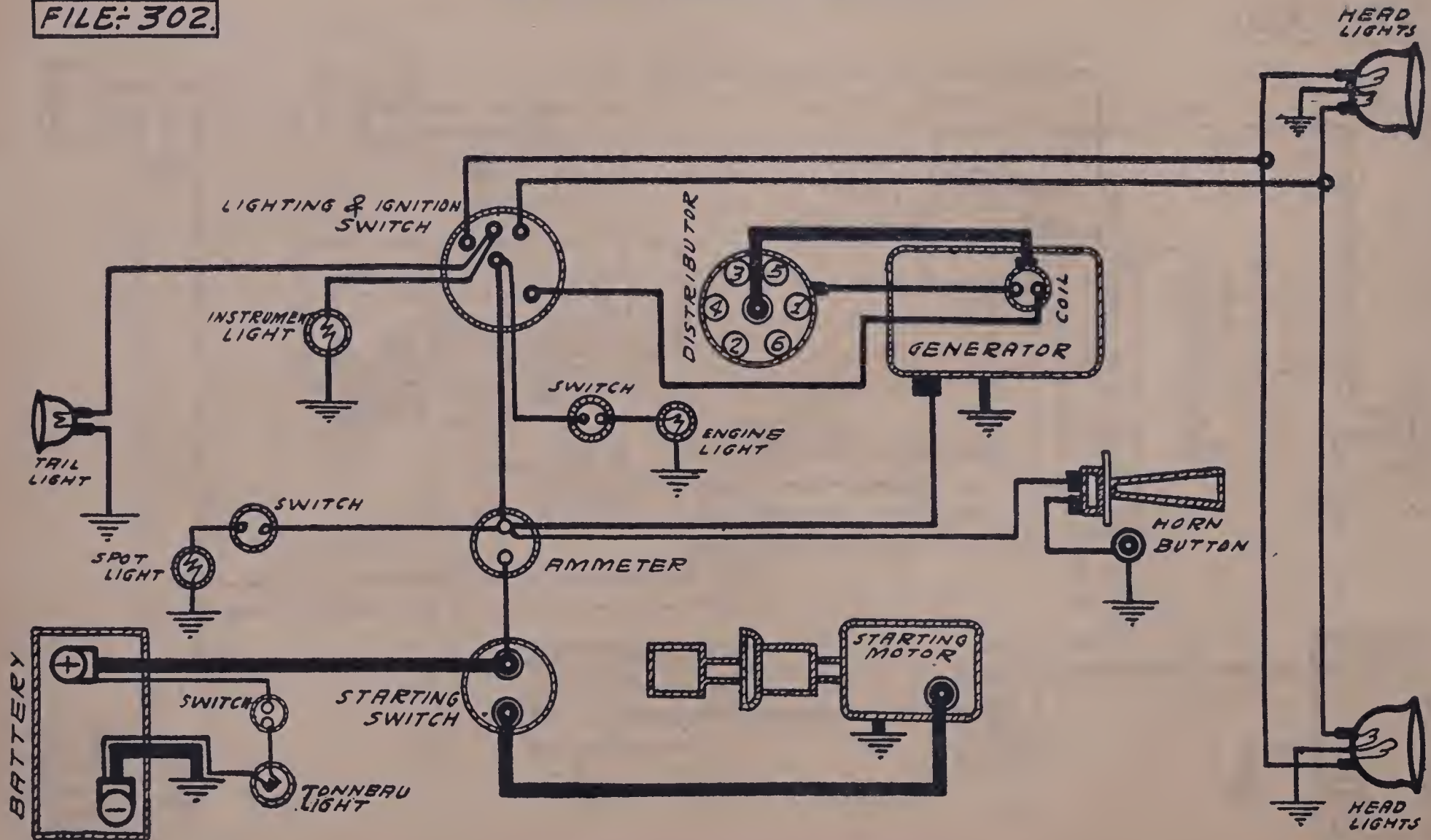
SCRIPPS-BOOTH

1918-MODEL-6-39, 6-40.

1919-MODEL 6-30.

6-VOLT, REMY SYSTEM.

FILE: 302.



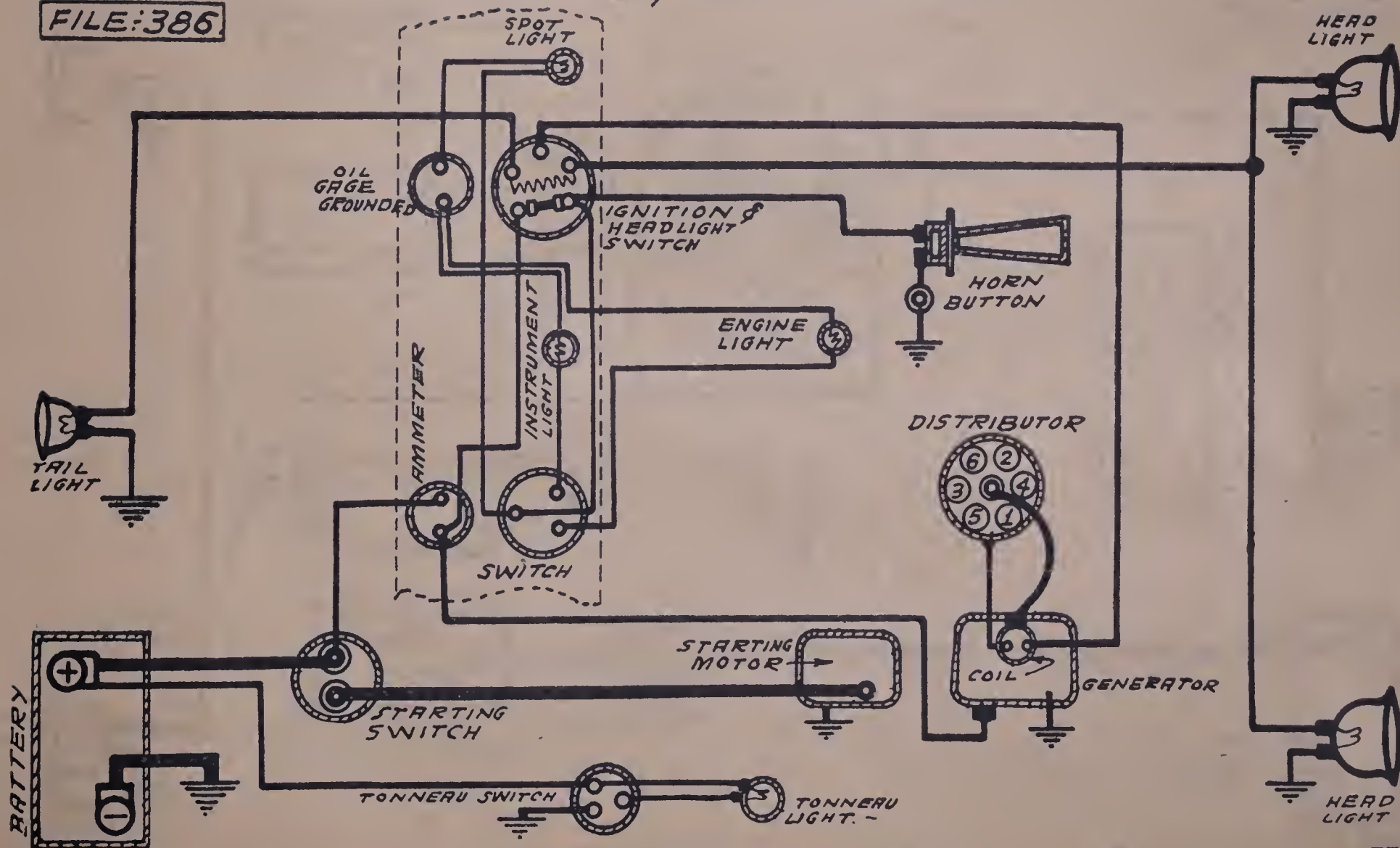
1920

SCRIPPS-BOOTH

'B' SERIES

6-VOLT, REMY SYSTEM.

FILE:386



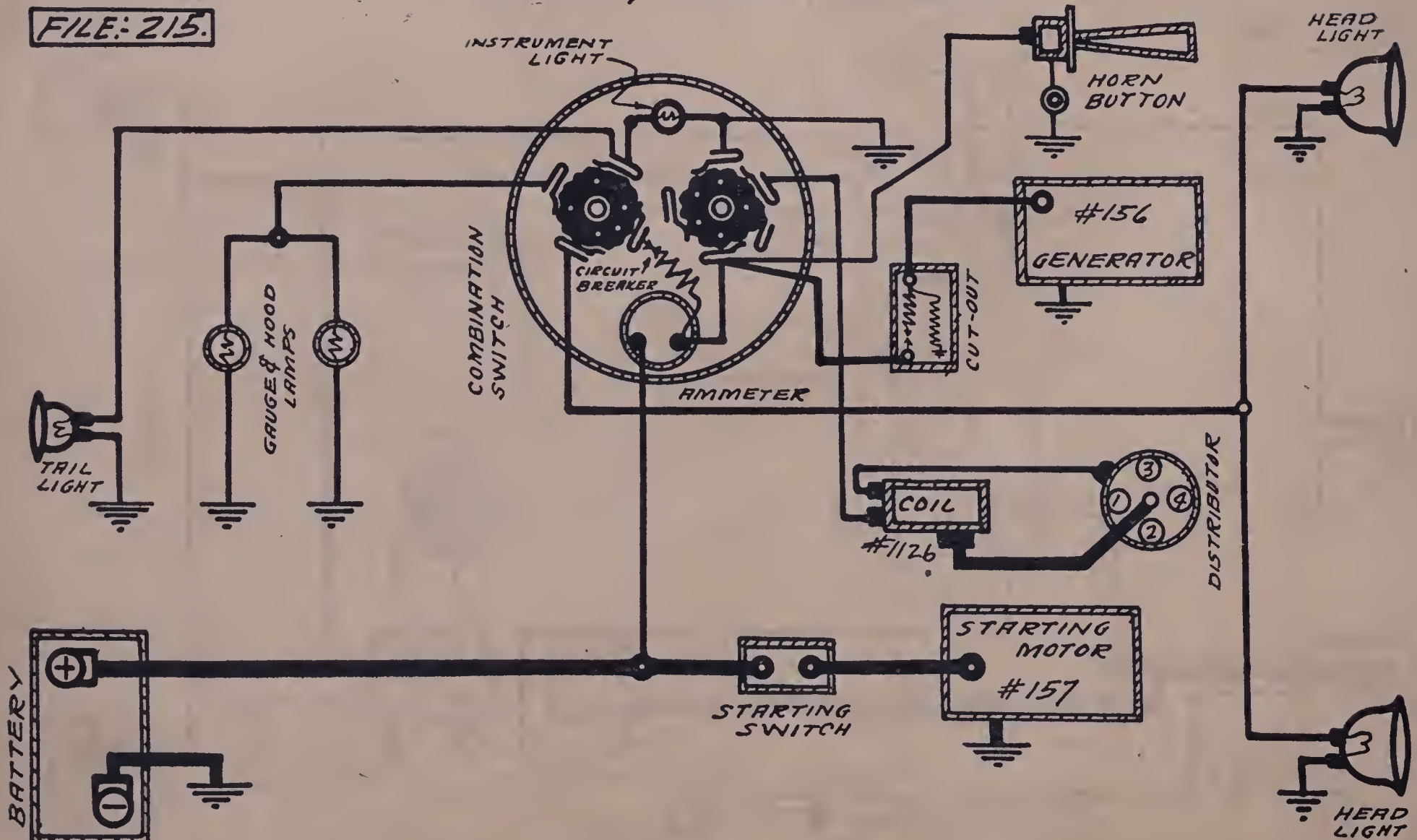
SEAGRAVE

1919

MODELS F-4, F-6.

12-VOLT, -DELCO SYSTEM.

FILE: 215.



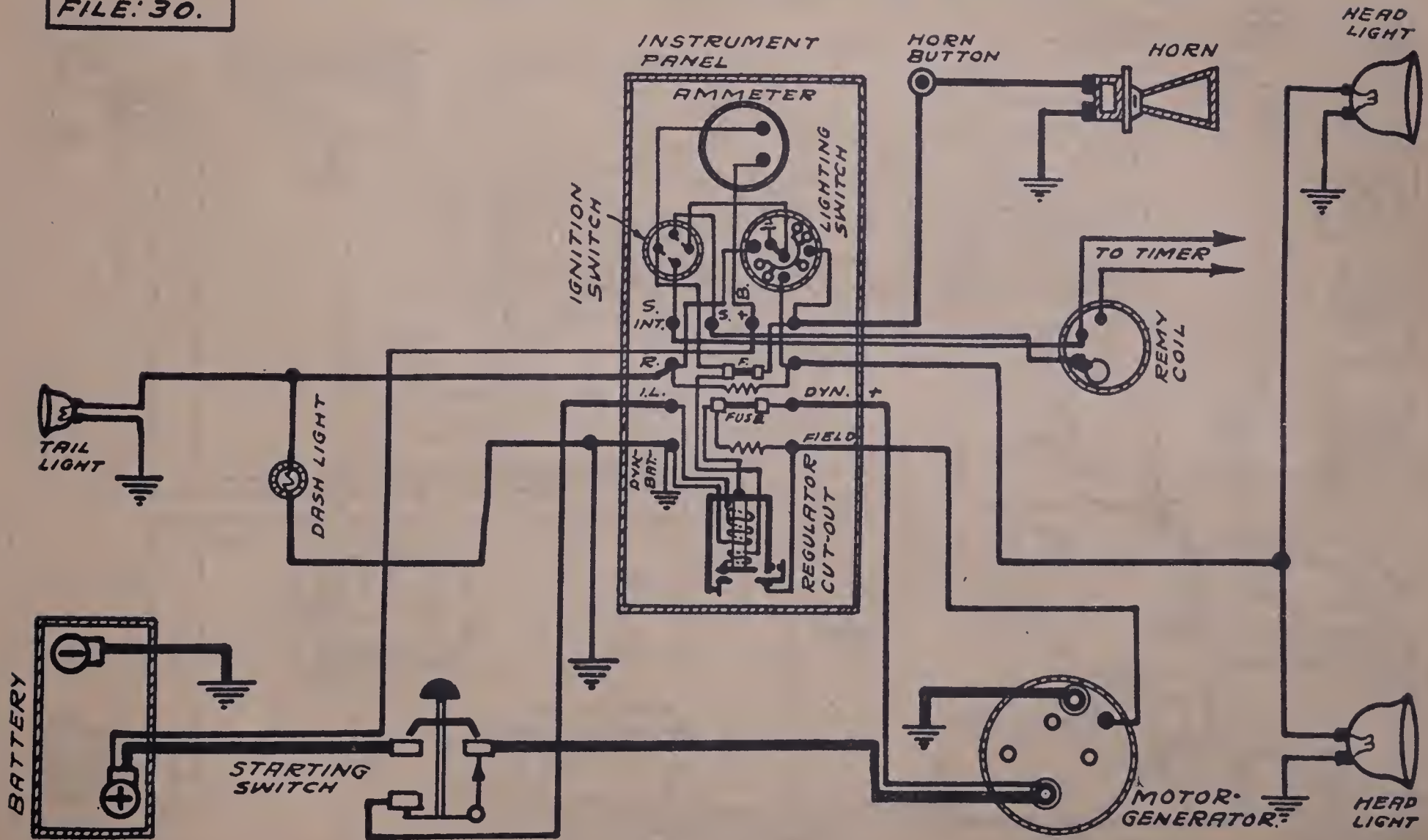
SENECA

1917-1918-1919.

6-VOLT, ALLIS-CHALMERS SYSTEM, REMY IGNITION.

MODEL D, AND H

FILE: 30.



SIMPLEX *MODEL - CRANE, 5.*
12-VOLT, BOSCH SYSTEM.

MODEL - CRANE, 5.

12-VOLT, BOSCH SYSTEM.

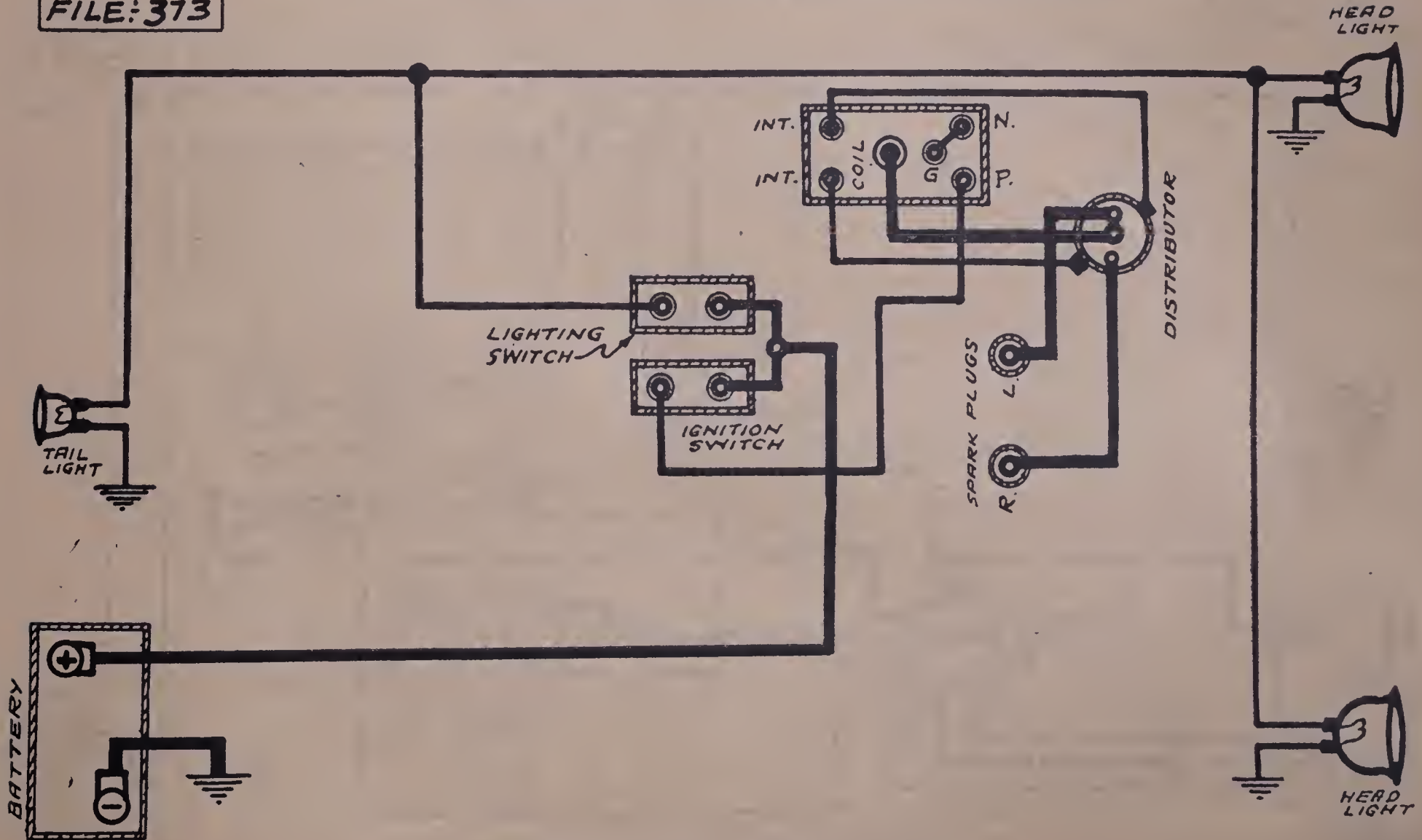
SPACKE

1919 - MODEL, S-19.

1920 - MODEL, S-20

6-VOLT, -ATWATER-KENT SYSTEM

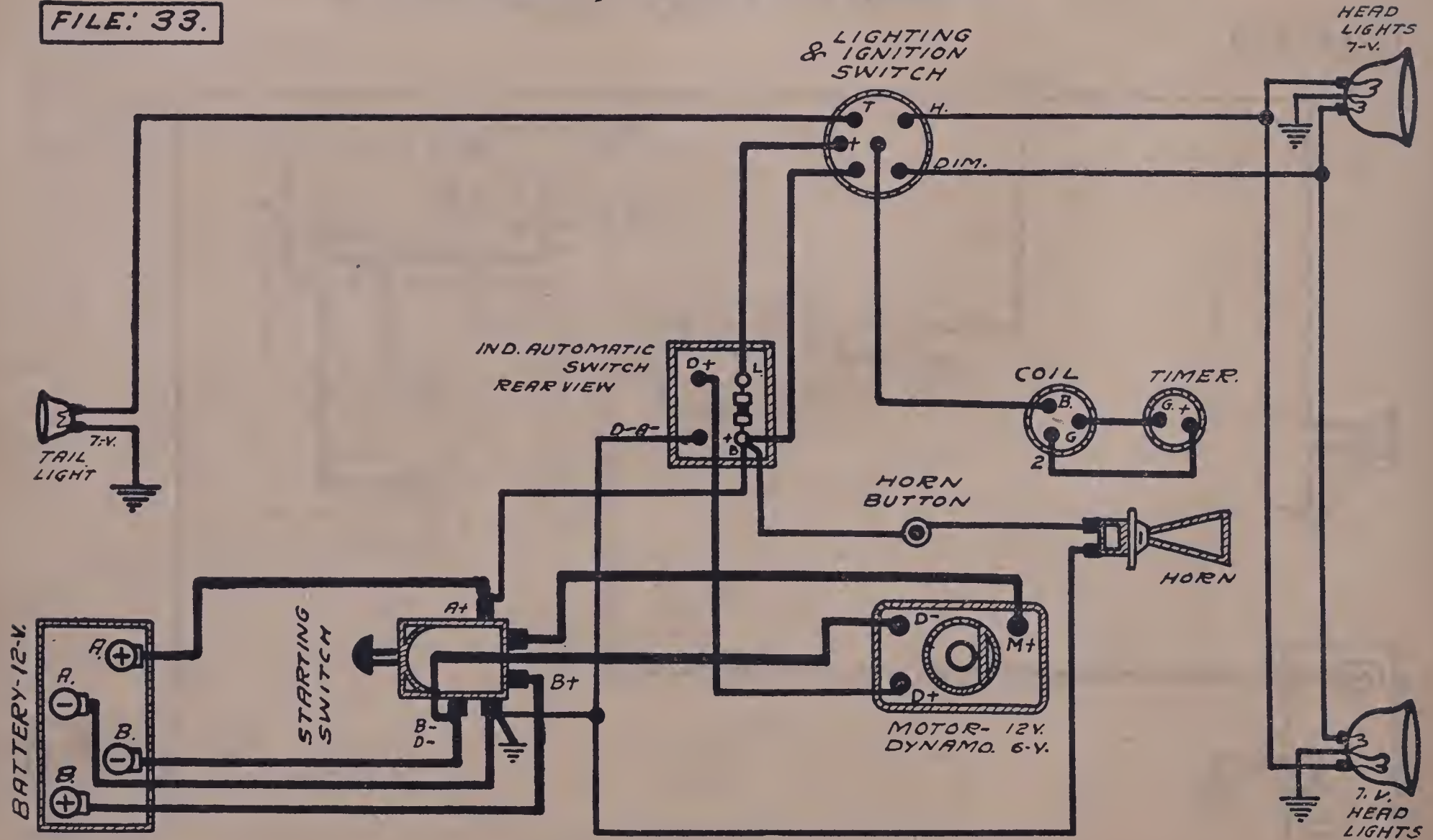
FILE: 373



SPHINX

1915 - 1916.
12-6-VOLT, SPLITDORF SYSTEM.

FILE: 33.



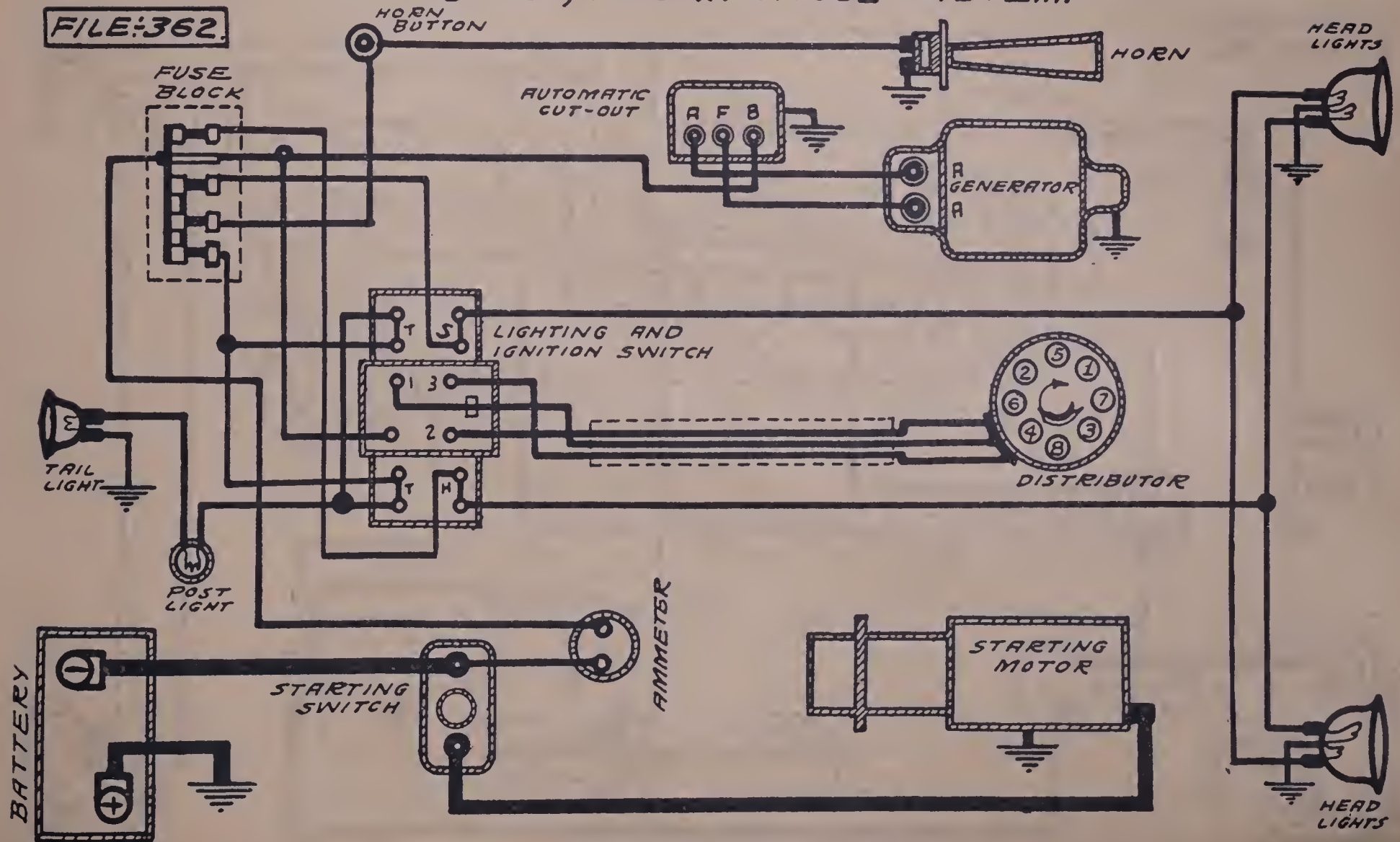
STANDARD

1915-1916

MODEL E:

6-VOLT, WESTINGHOUSE SYSTEM.

FILE:362.



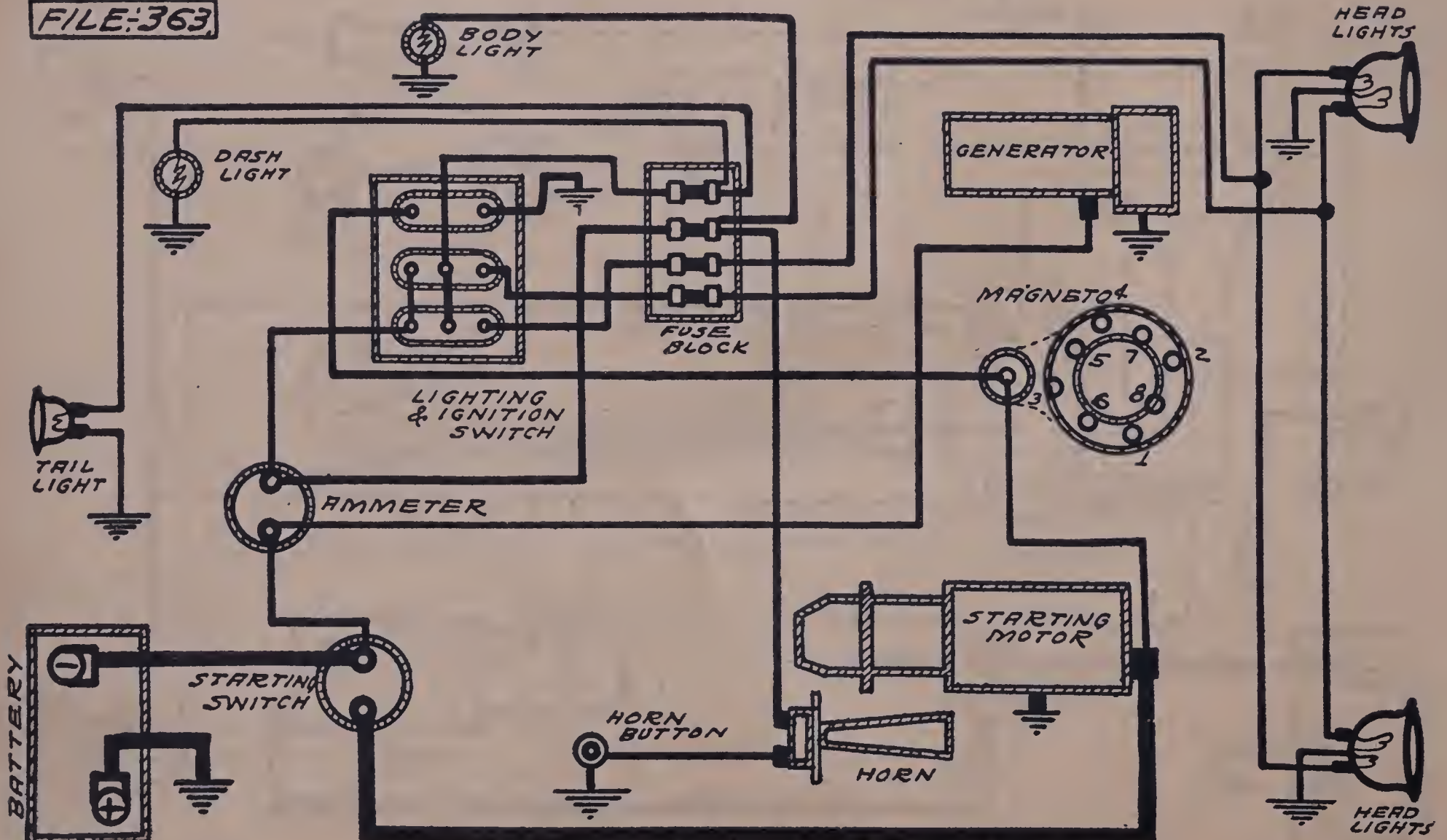
STANDARD

1917

MODEL F.

6-VOLT, WESTINGHOUSE SYSTEM.

FILE: 363



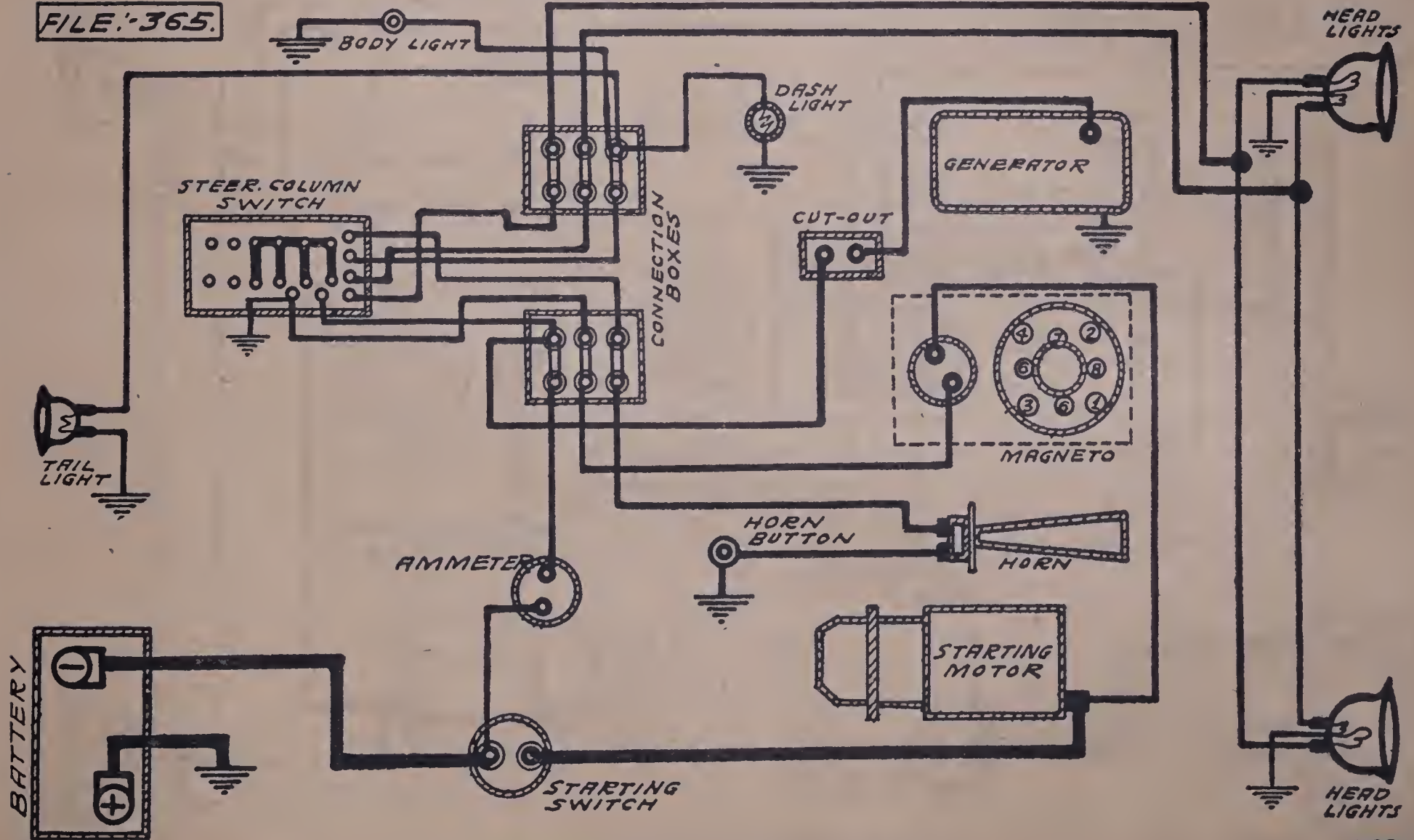
STANDARD

1917-1918-1919

MODELS G, H.

6-VOLT, WESTINGHOUSE SYSTEM.

FILE: 365.



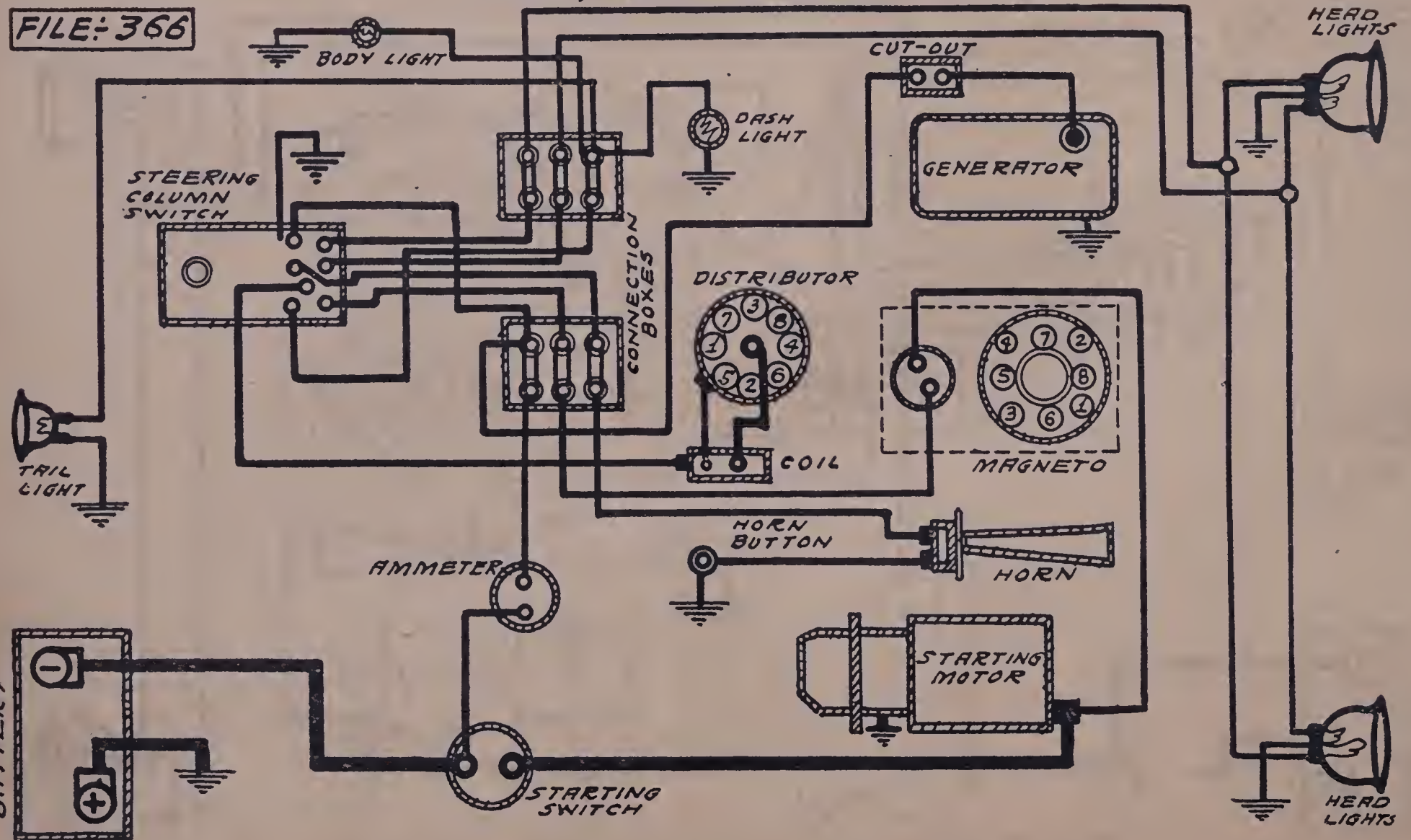
STANDARD

1920

MODEL, - I

6-VOLT, - WESTINGHOUSE SYSTEM.

FILE: 366



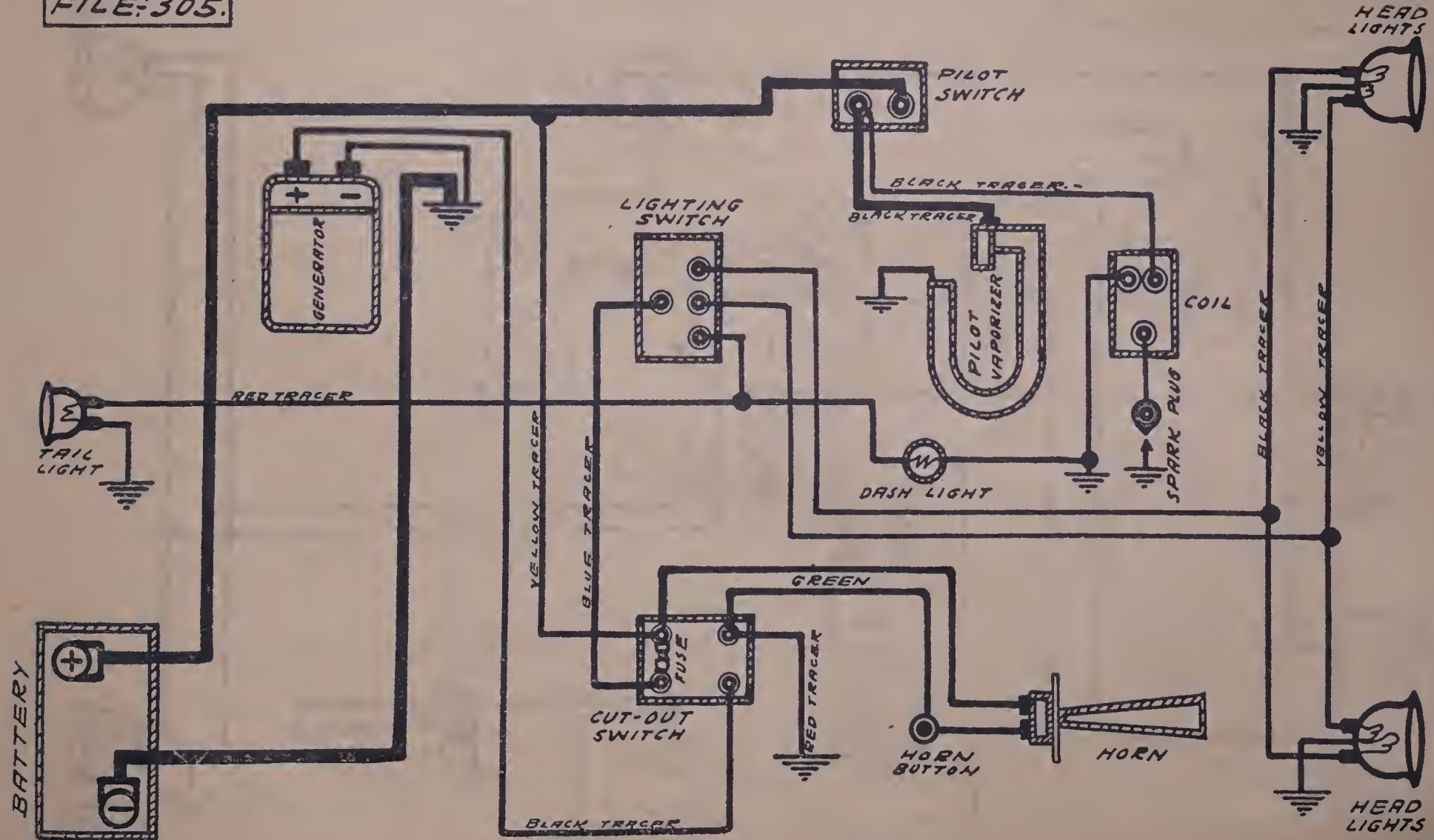
1918.

STANLEY STEAMER

MODEL 735

6-VOLT, APELCO SYSTEM.

FILE:305.



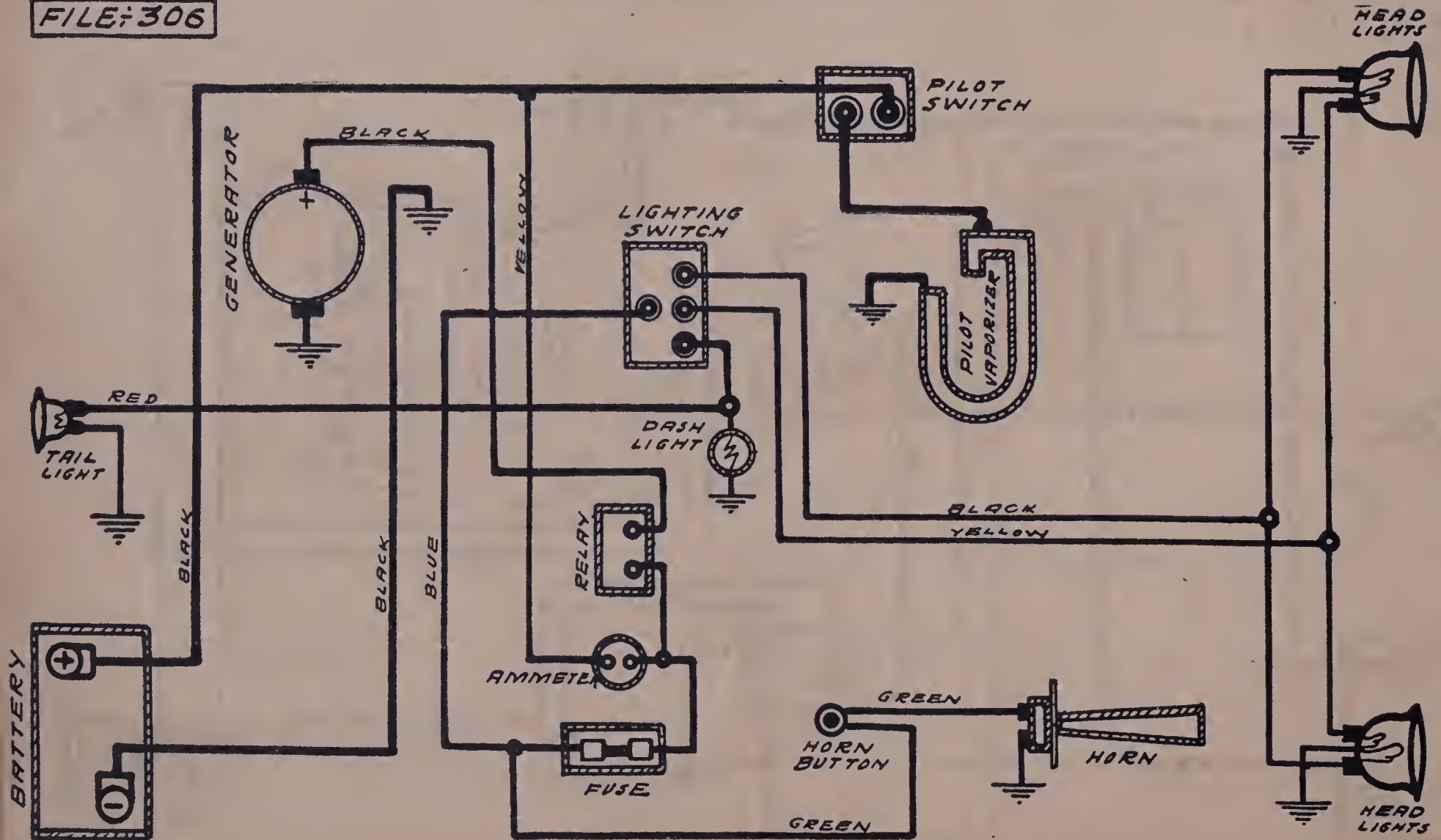
STANLEY STEAMER

1919-1920.

MODEL - 735.

6-VOLT, REMY SYSTEM.

FILE: 306



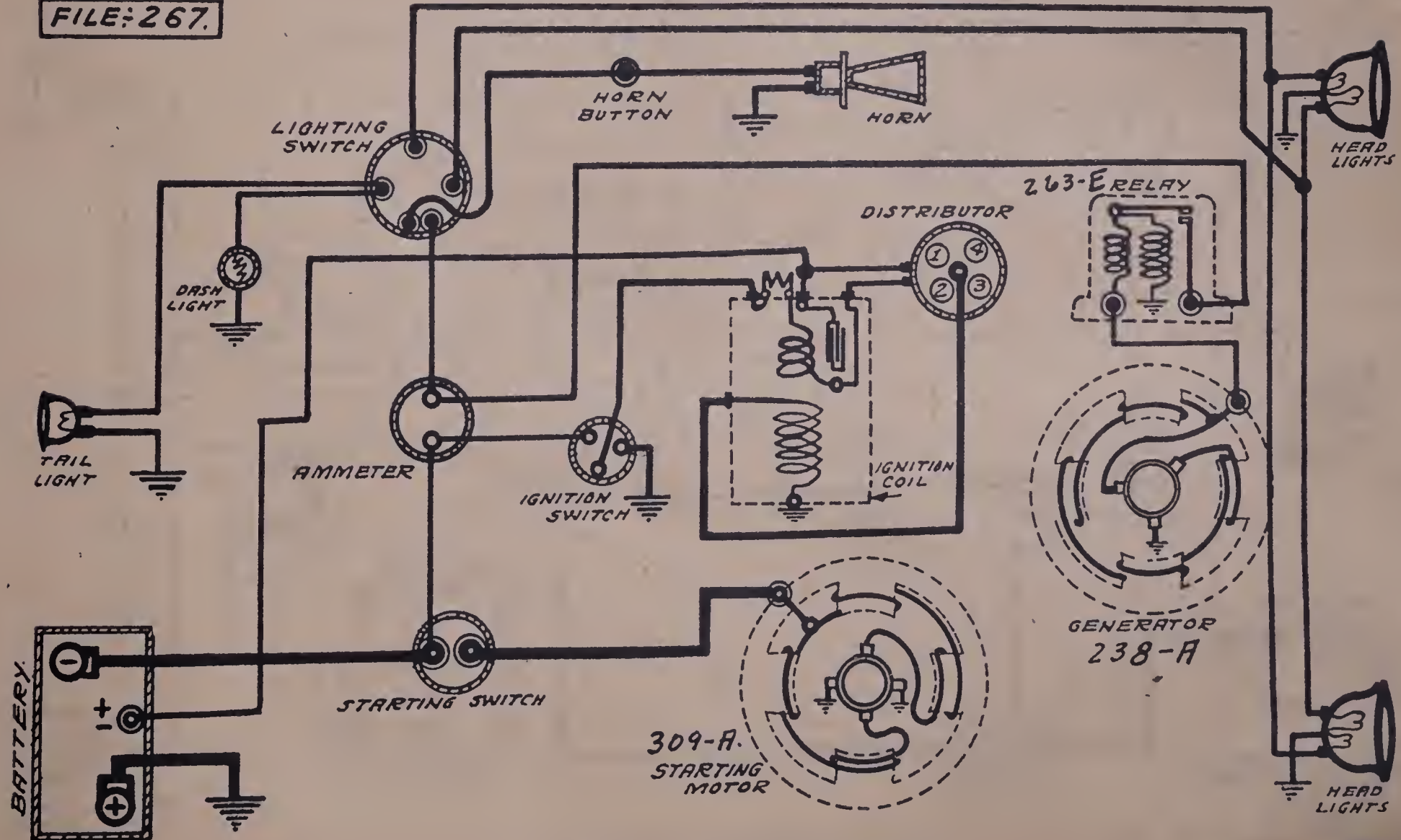
STEARNS

1918

MODEL-SKL-4

12-VOLT, -REMY SYSTEM.

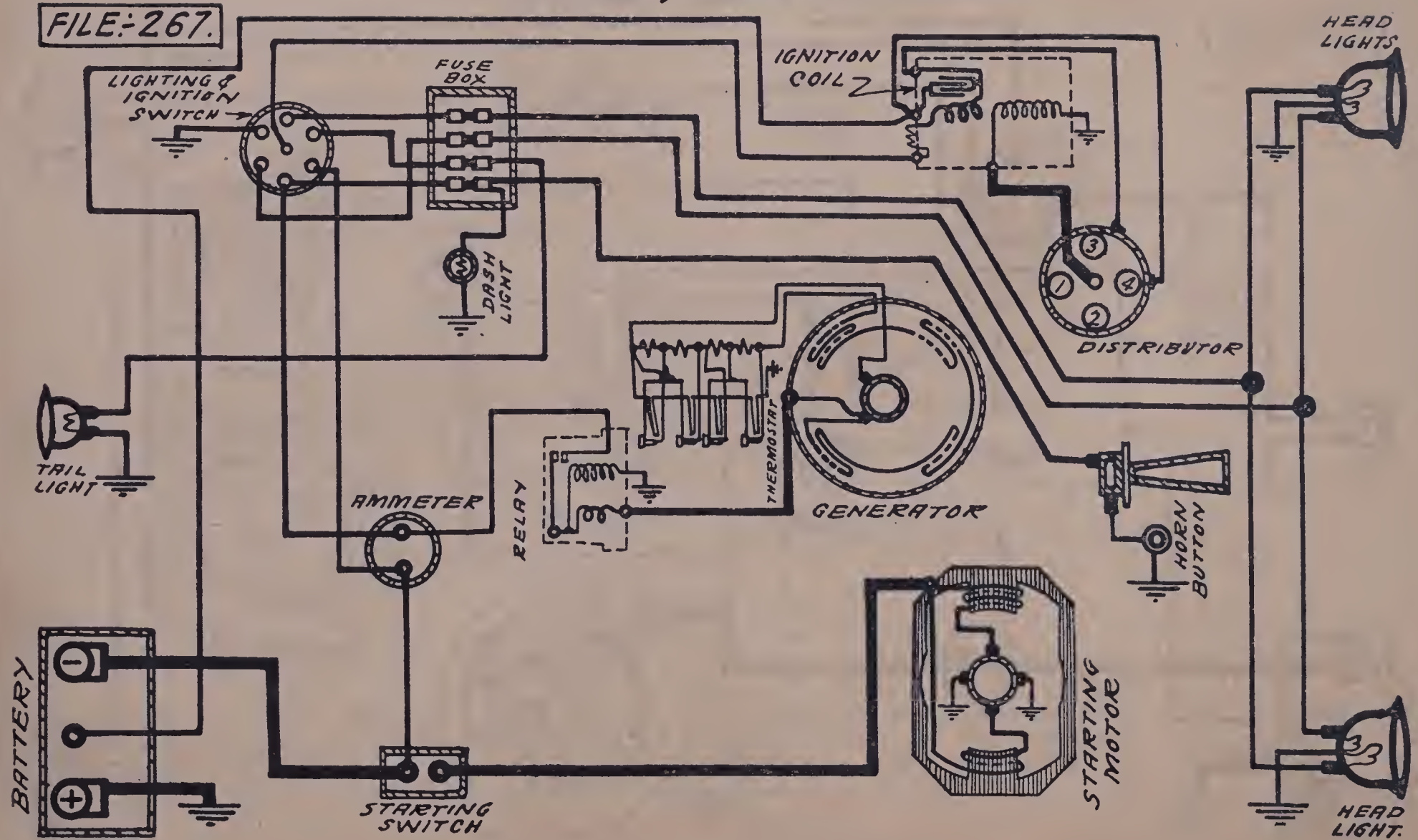
FILE: 267.



STEARNS

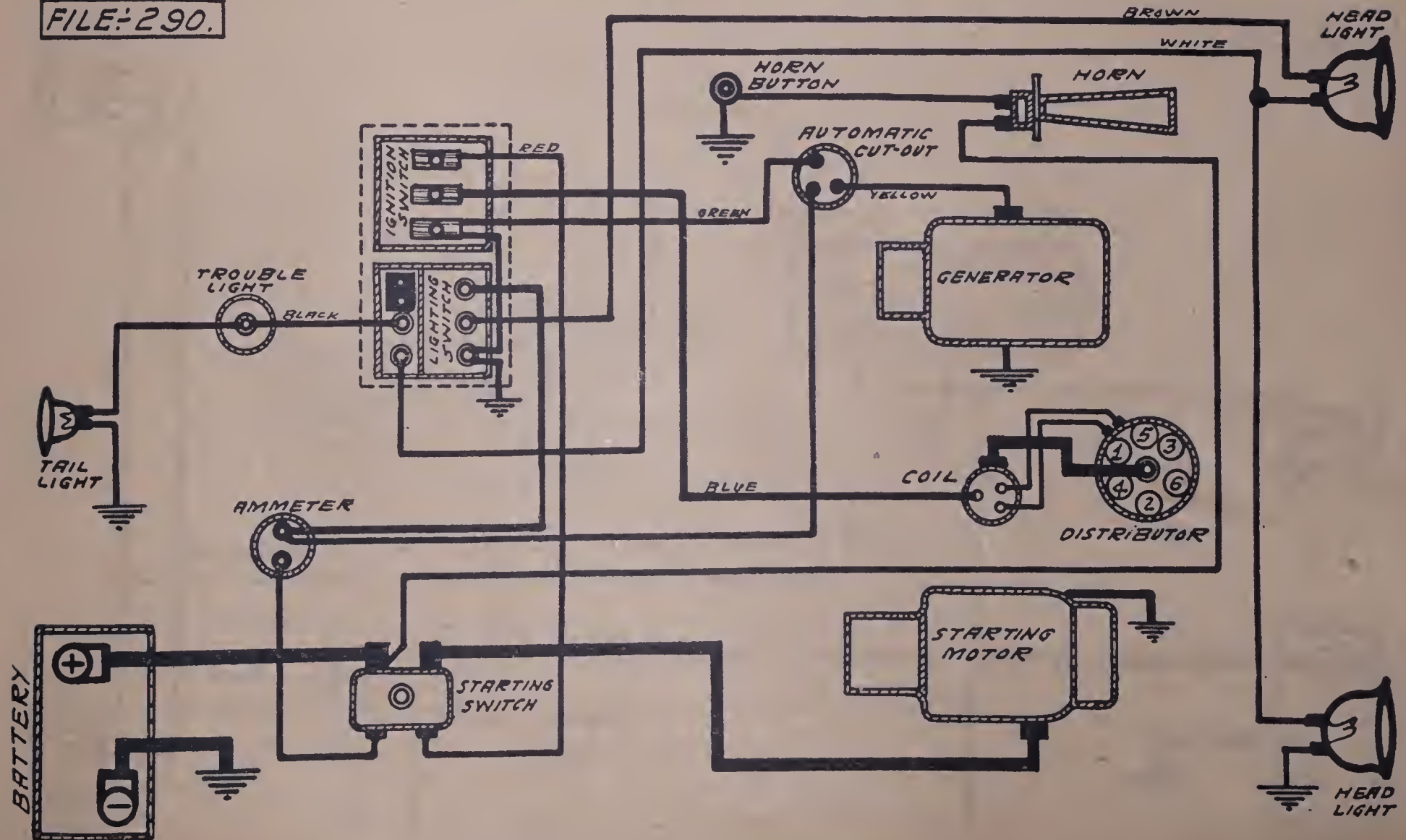
1919 MODEL

12-VOLT, - REMY SYSTEM.



MODEL 65.

FILE: 290.



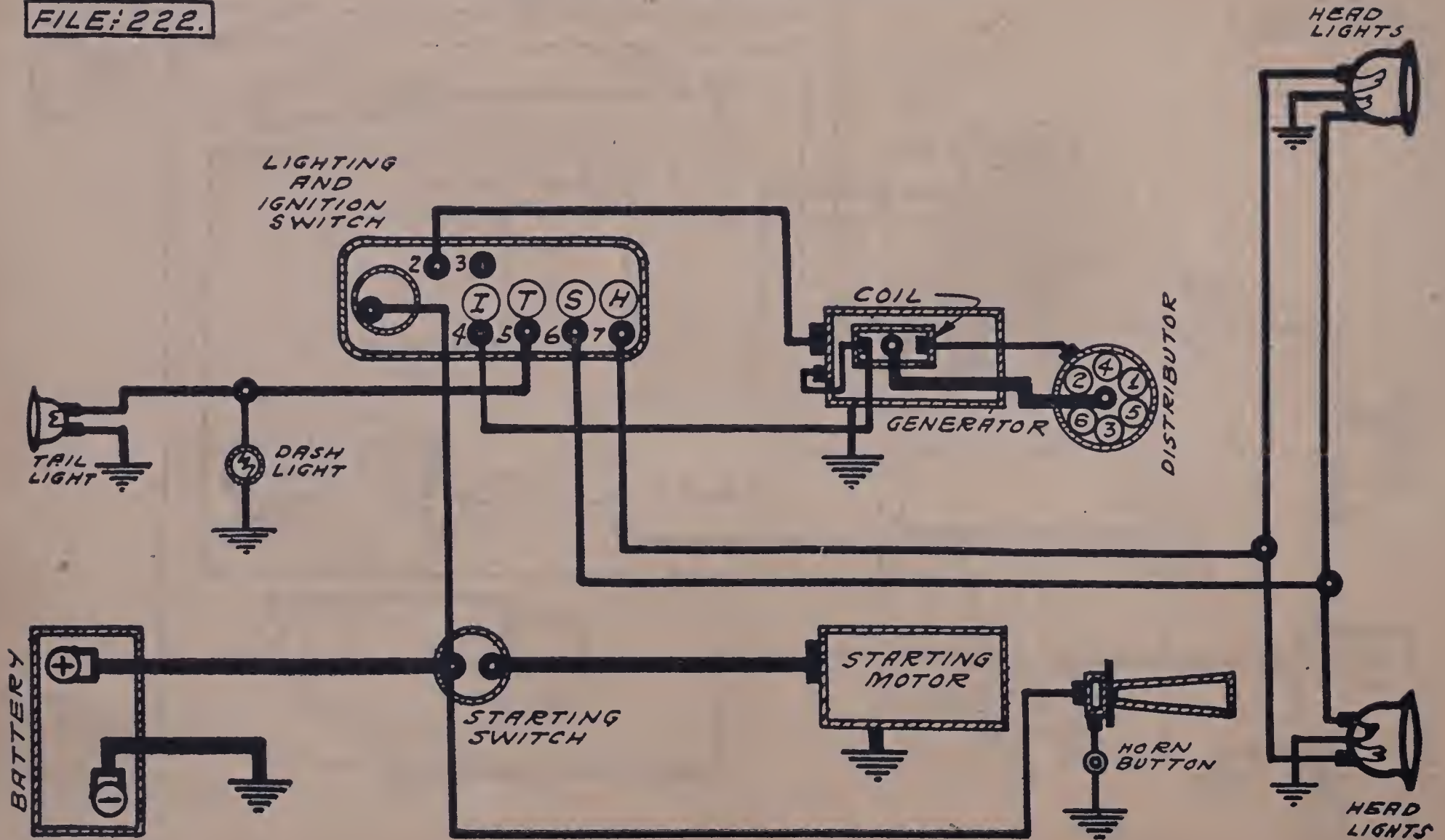
STEPHENS

1917, MODELS - 60, 65.

1918 MODELS - 70, 75.

6-VOLT, DELCO SYSTEM.

FILE: 222.



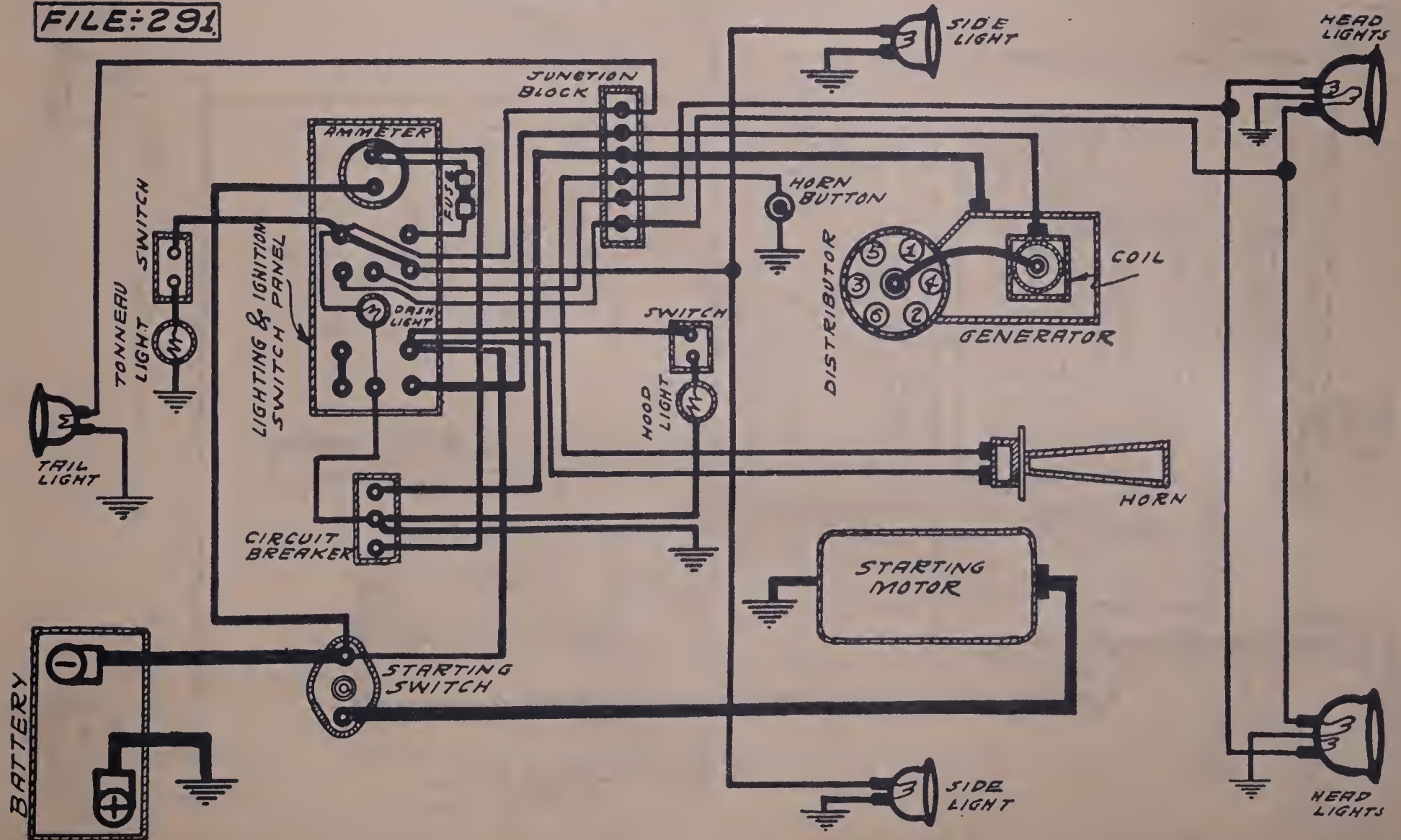
STEPHENS

1919

MODEL 80

6-VOLT, AUTOLITE SYSTEM

FILE:291



STEPHENS

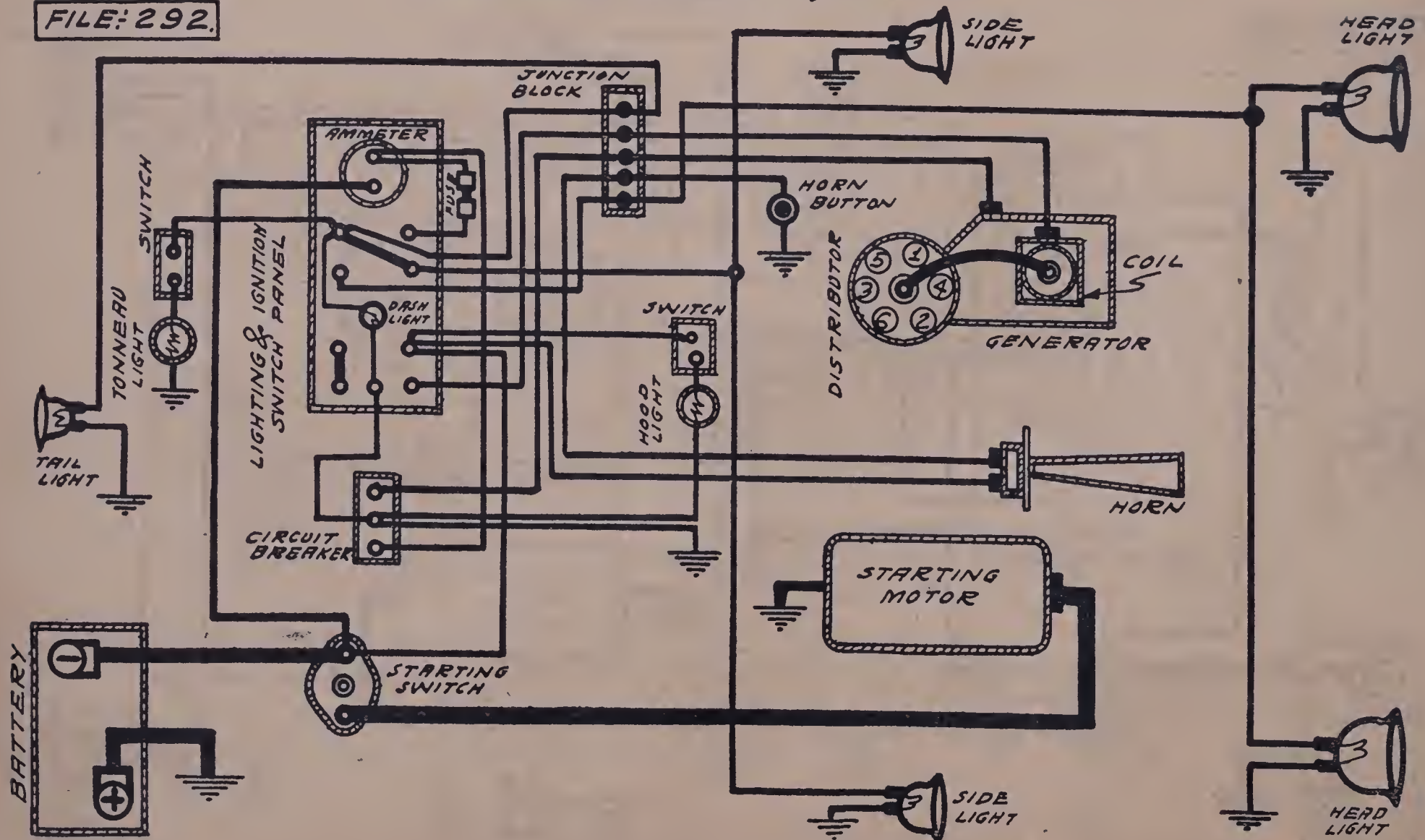
1920

MODEL 80

SERIES 2.

6-8-VOLT, -AUTOLITE, SYSTEM.

FILE: 292.

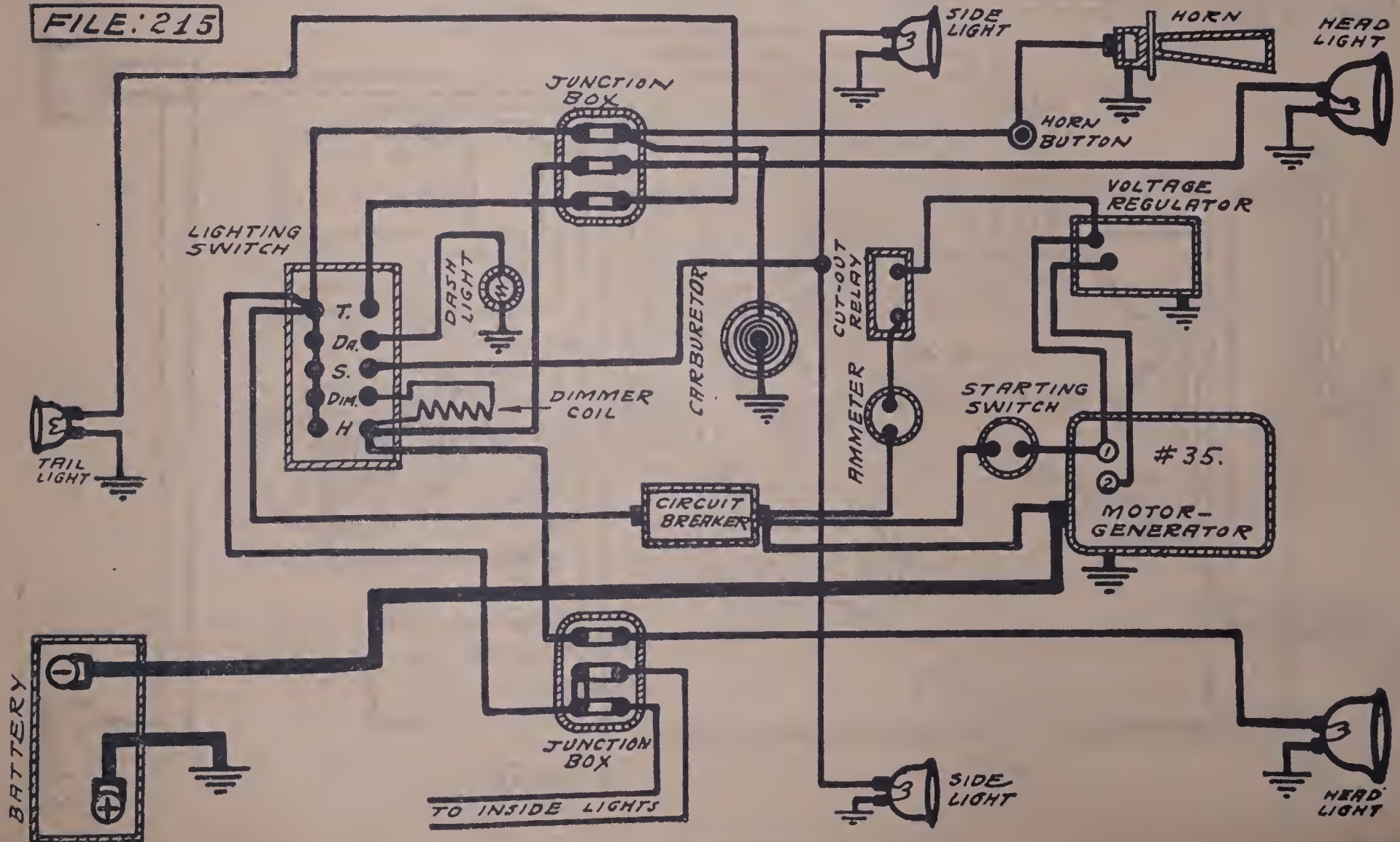


STEVENS-DURYEA

1915

MODEL D-6.

6-VOLT, DELCO SYSTEM.



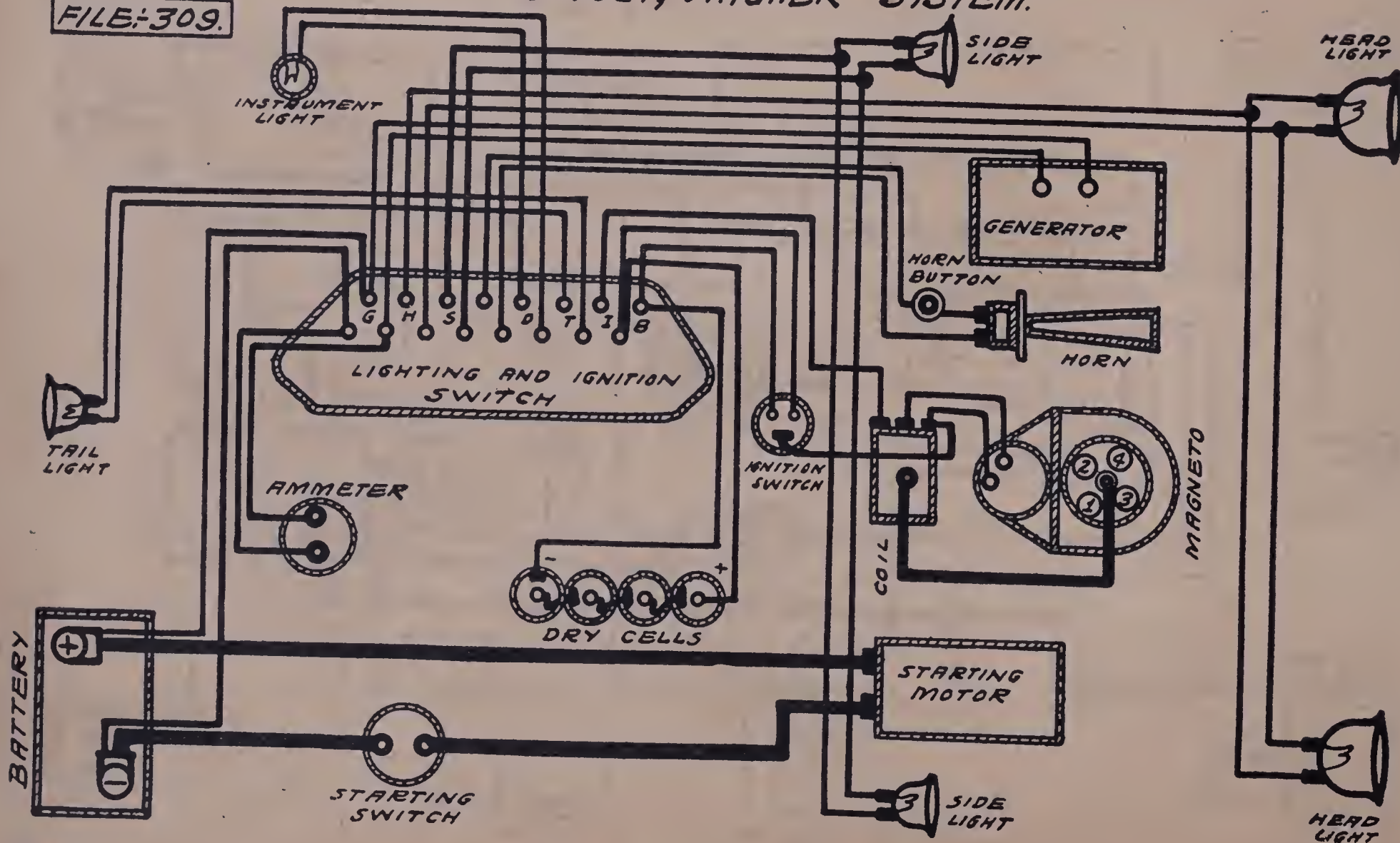
1913-1914

STUDEBAKER

MODEL - FOUR

6-VOLT, WAGNER SYSTEM.

FILE: 309.



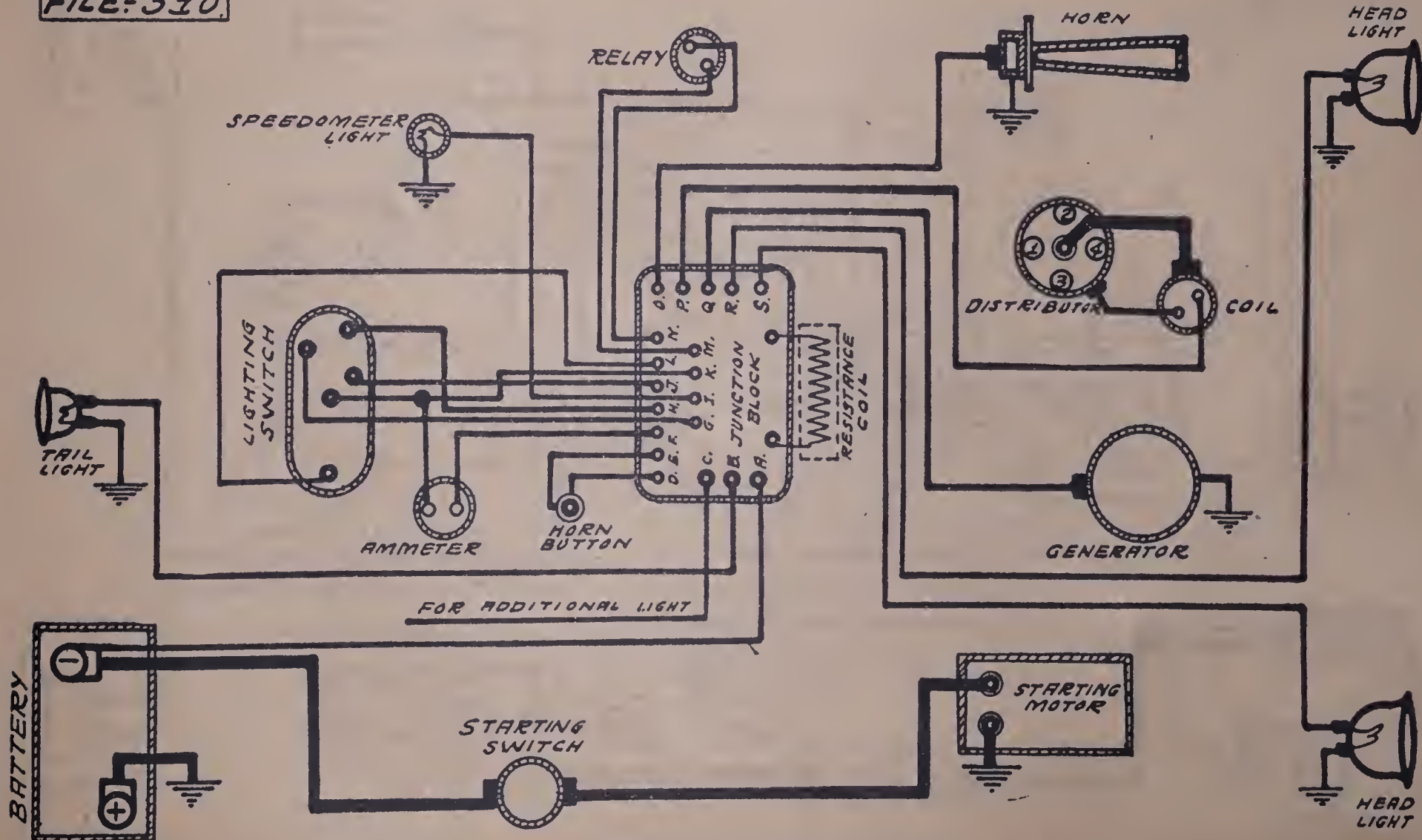
STUDEBAKER

1915-1916-1917

MODEL-ED, SF.

6-VOLT, REMY SYSTEM.

FILE: 310.



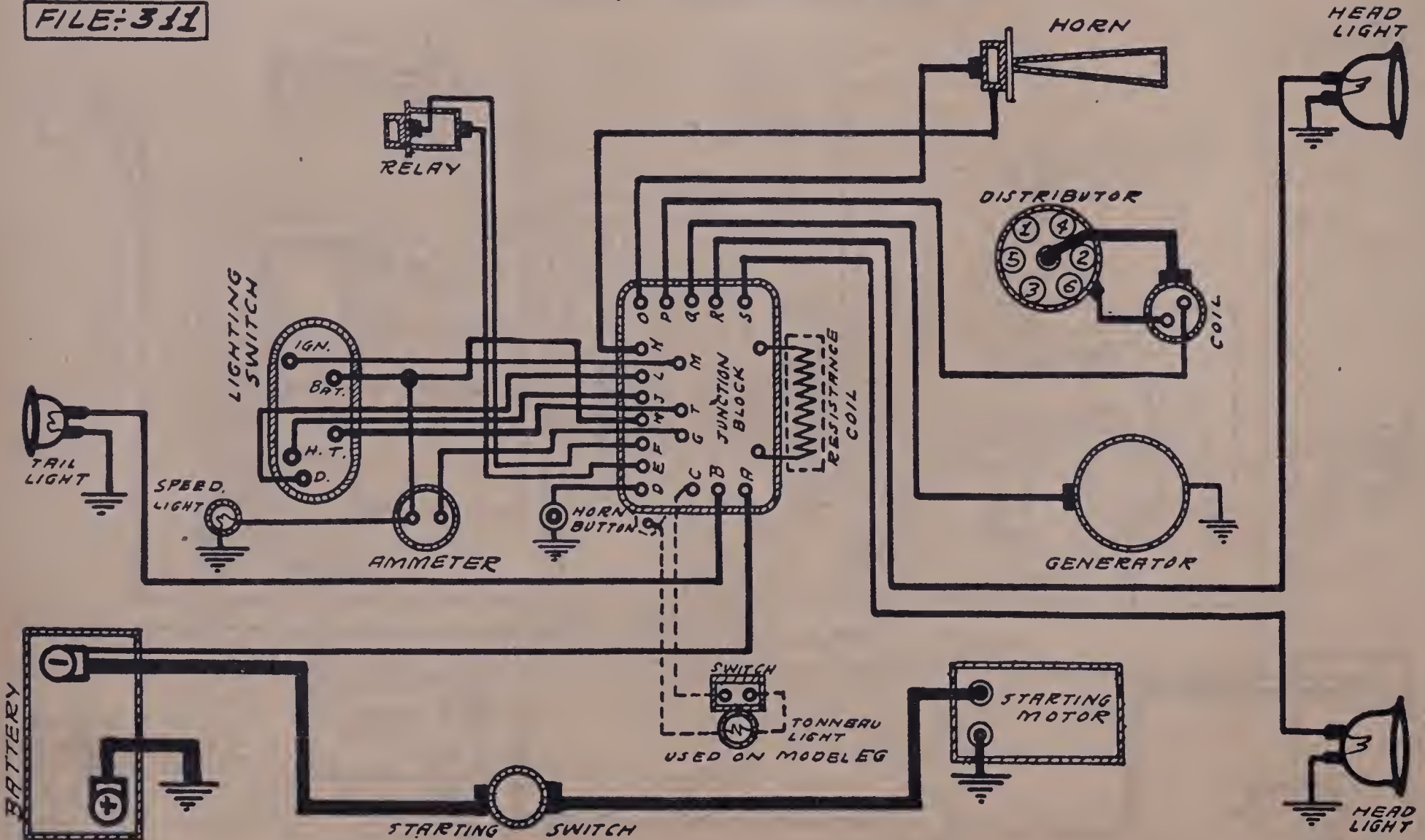
STUDEBAKER

1918-1919.

MODELS-EG, EH, SH.

6-VOLT, WAGNER SYSTEM.

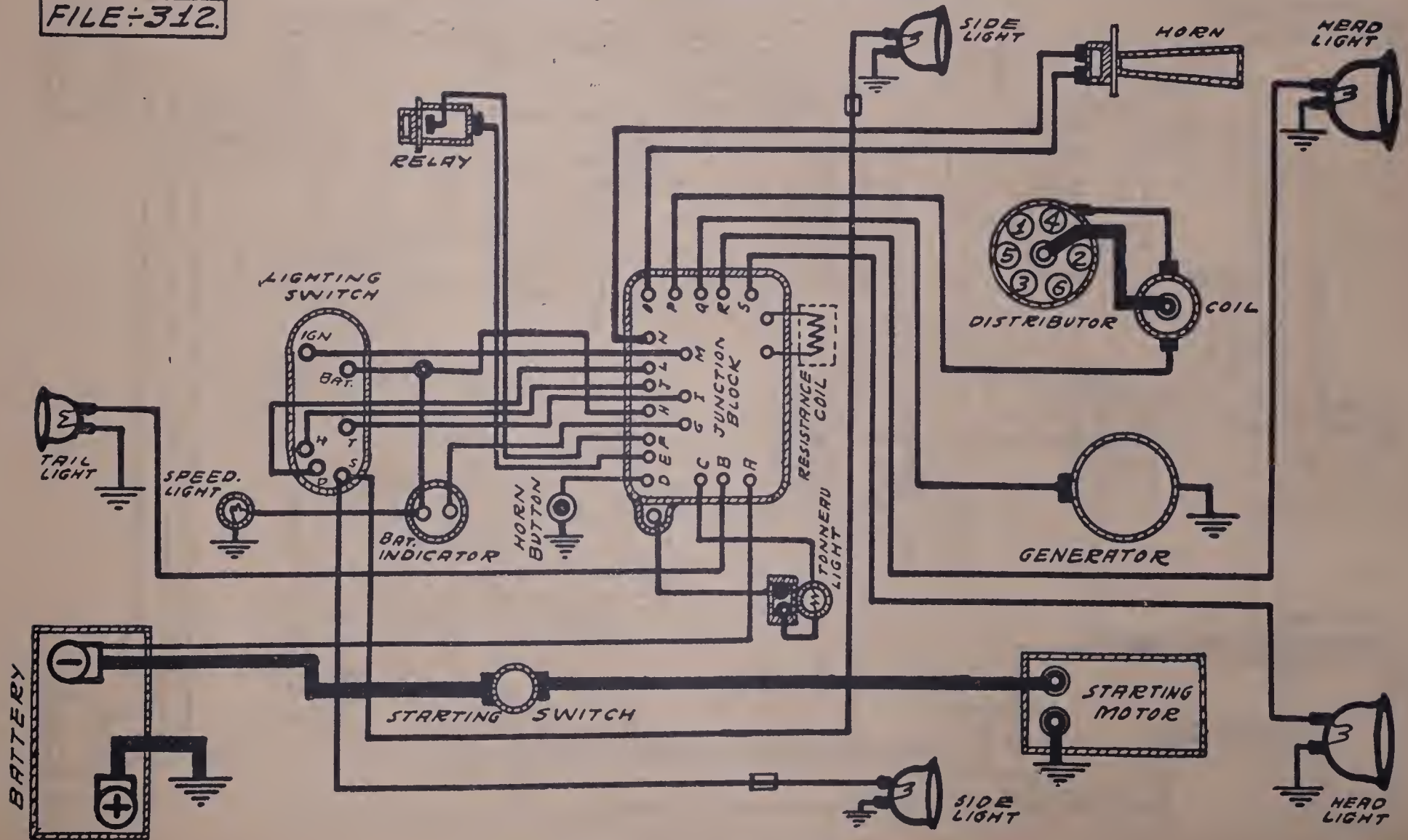
FILE: 311



STUDEBAKER

1920.
MODELS; EU, EG, LIGHT-SIX.
6-VOLT, WAGNER SYSTEM.

FILE-312.



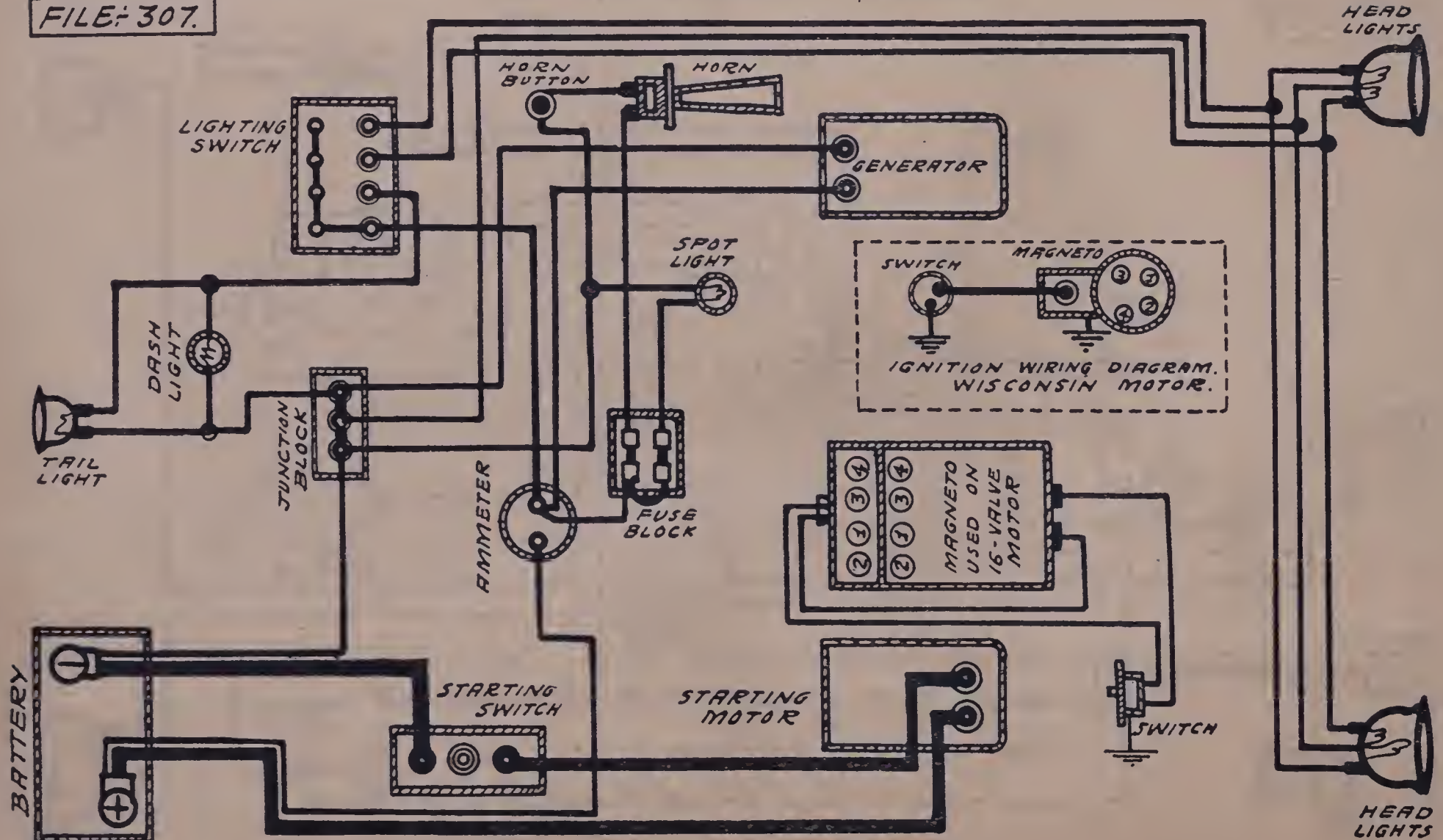
STUTZ

1915-1916-1917.

MODEL F,C,R.

6-VOLT, REMY SYSTEM

FILE: 307.



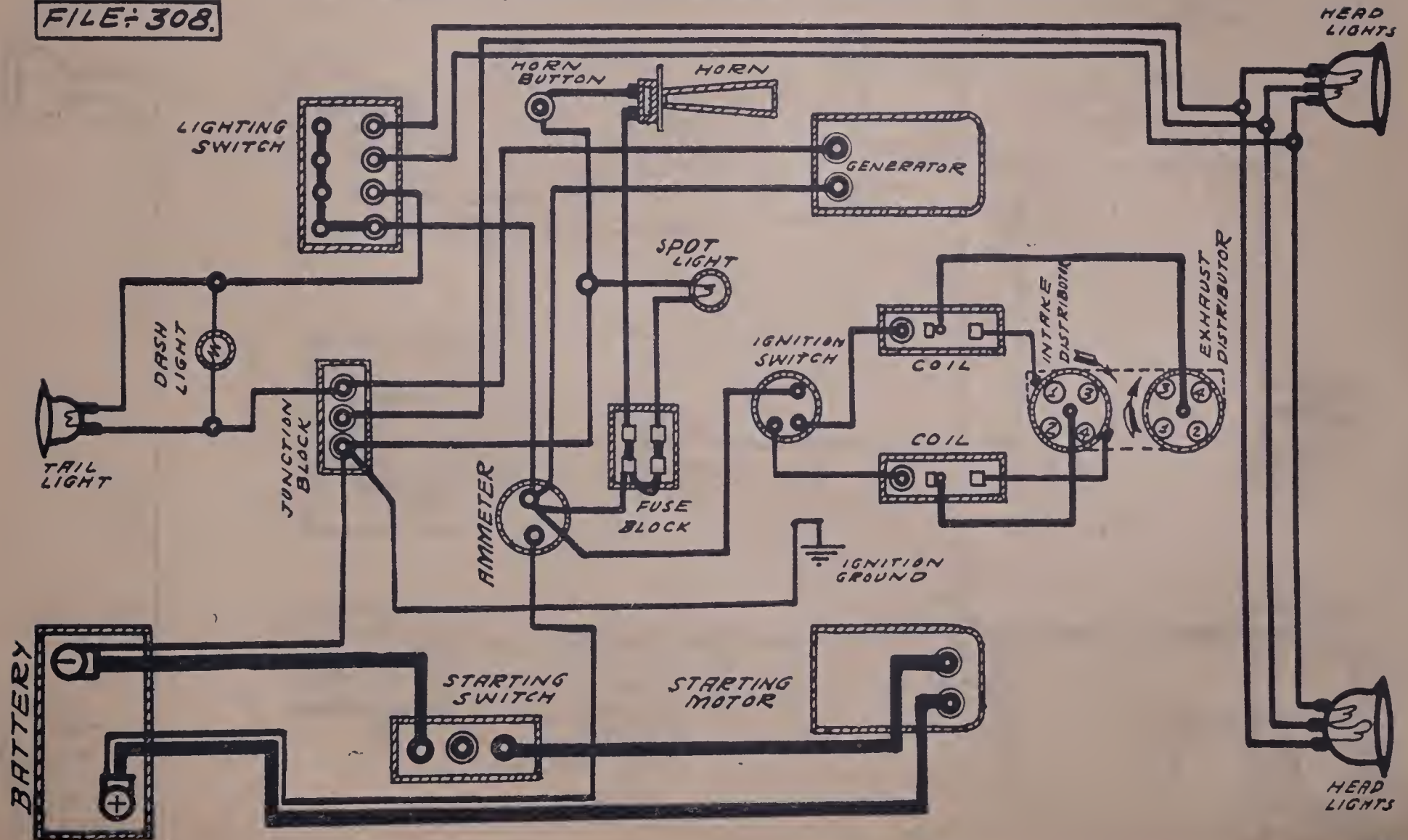
STUTZ

1918-1919-1920.

MODEL S, G, H.

6-VOLT, REMY SYSTEM = DELCO IGNITION.

FILE: 308.



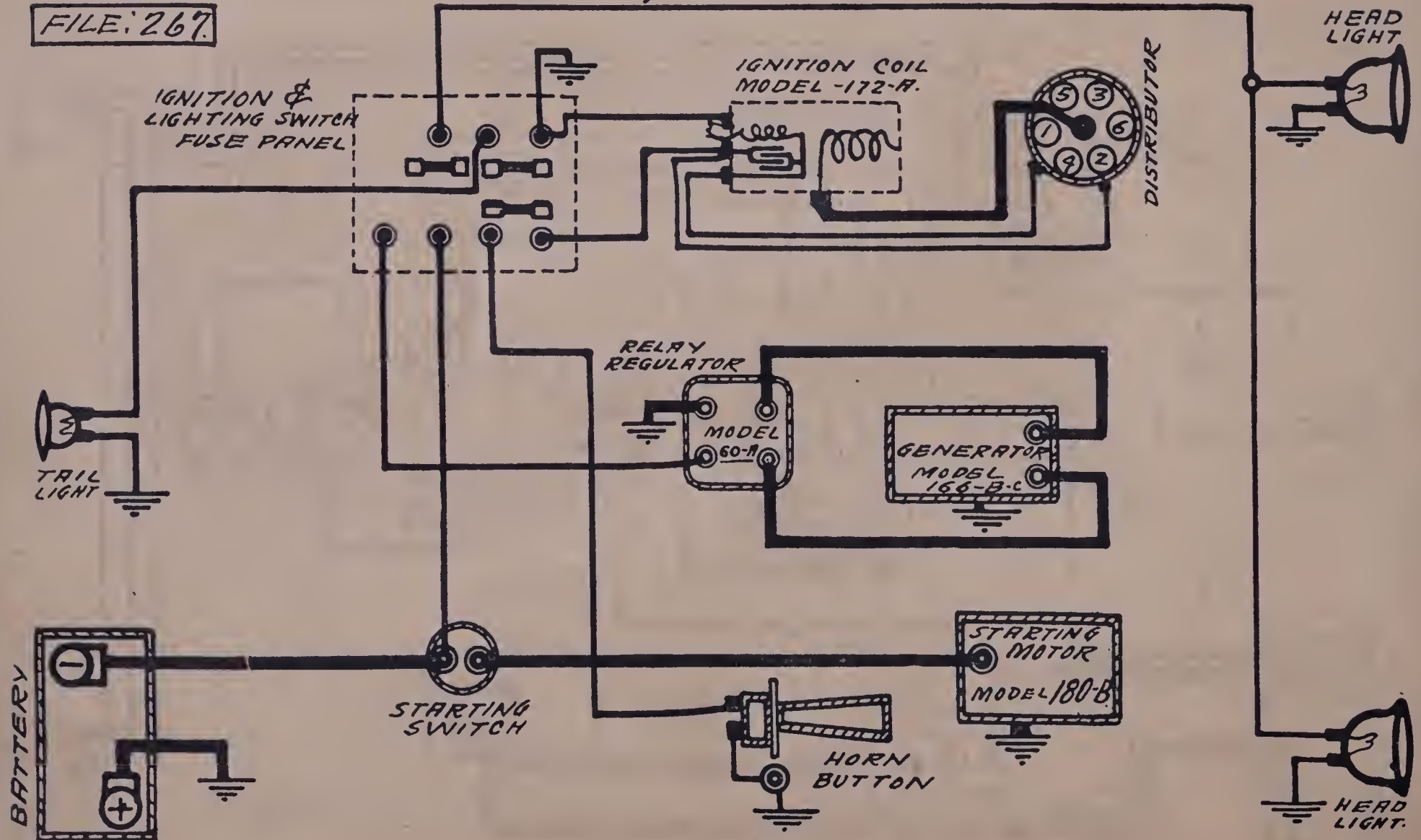
SUN LIGHT SIX

1916-1917

MODEL 17.

6-VOLT, -REMY SYSTEM.

FILE: 267.



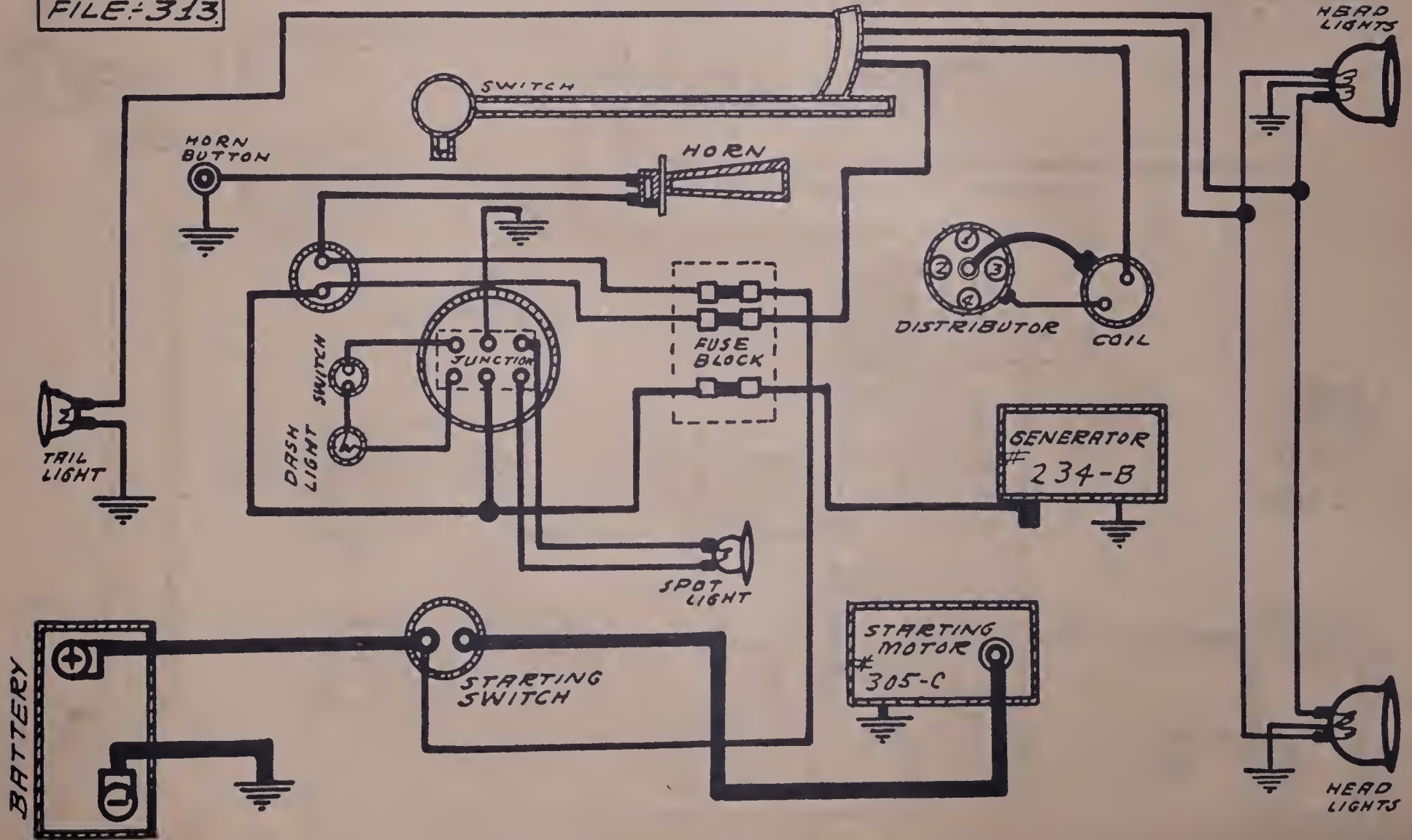
TEMPLAR

1918-1919.

MODEL 445.

6-VOLT, -REMY SYSTEM.

FILE: 313

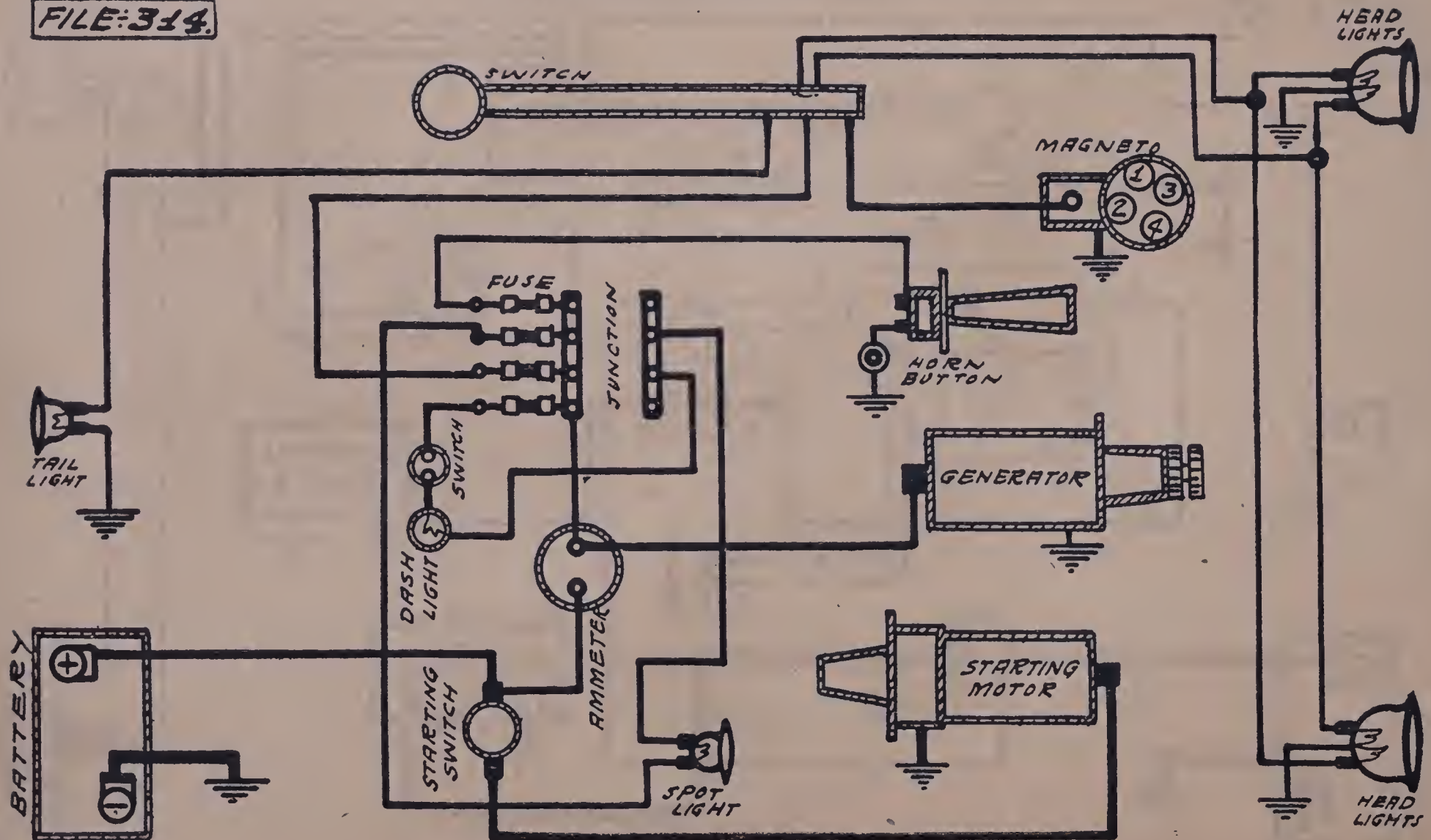


TEMPLAR

1920 MODELS

6-VOLT, - BIJUR SYSTEM.

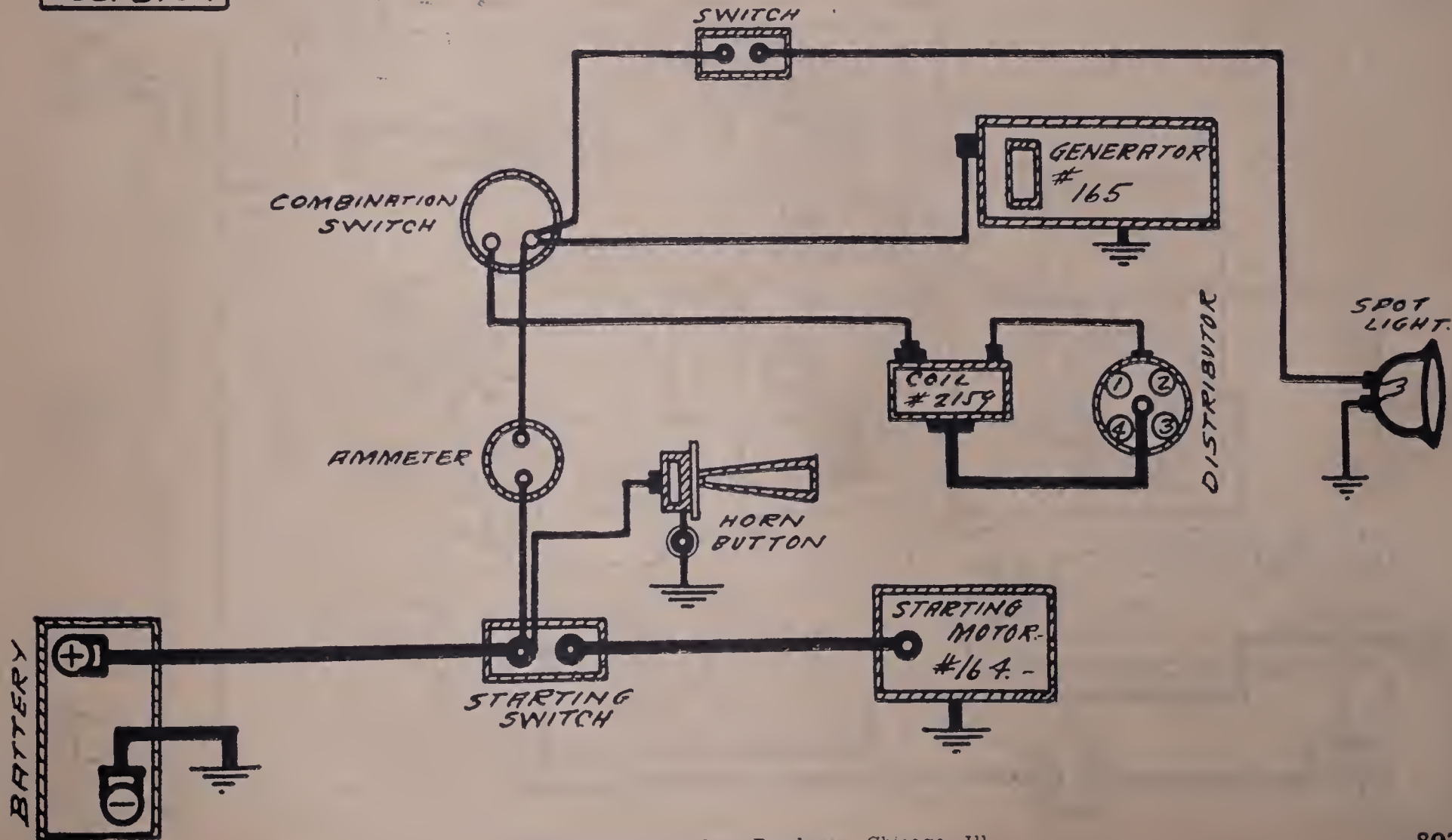
FILE: 314.



TOWMOTOR COMPANY

1920 MODEL.
6-VOLT, -DELCO SYSTEM.

FILE: 215.



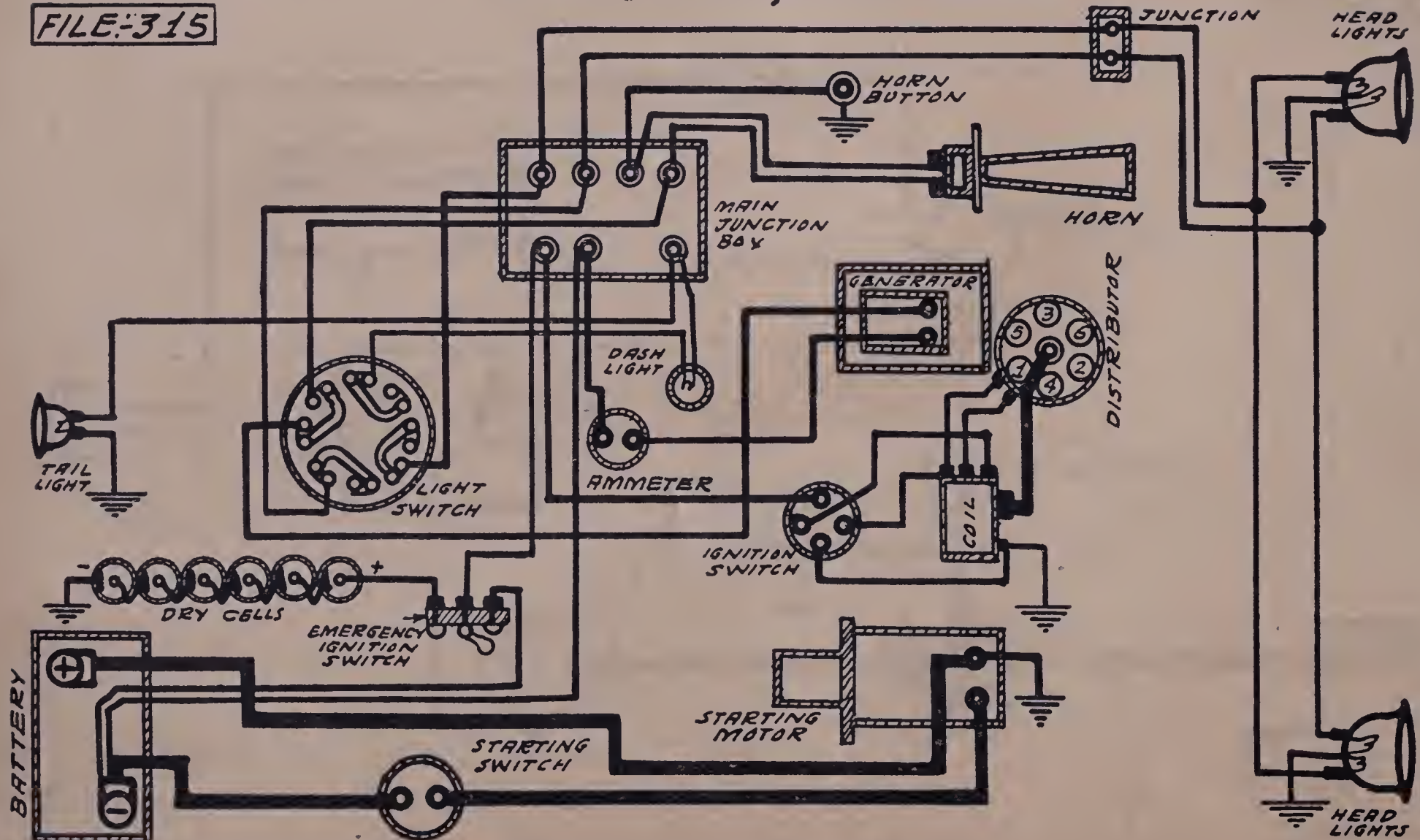
VELIE

1915

SERIES 15.

6-VOLT, GRAY & DAVIS SYSTEM.

FILE: 315



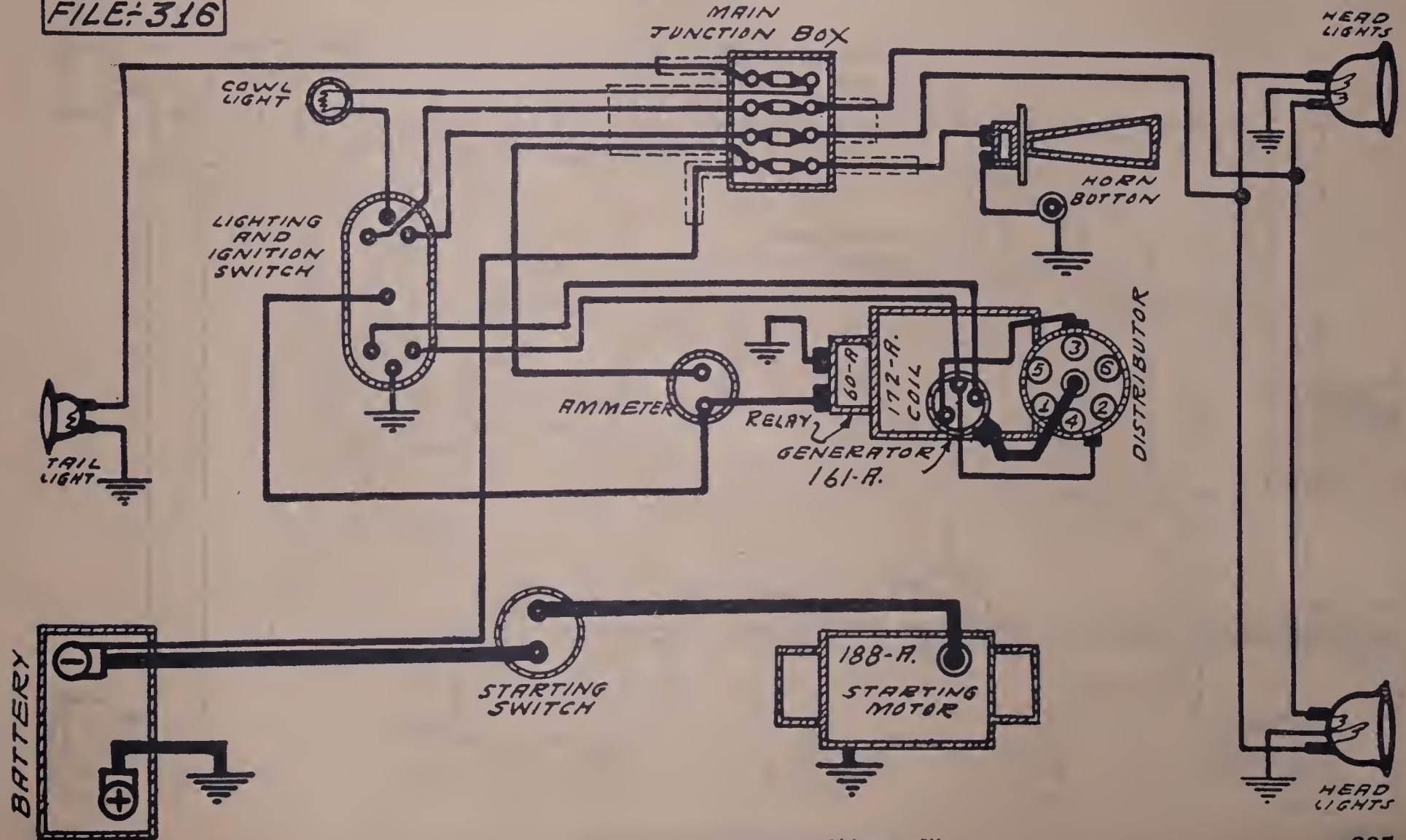
VELIE

1916

MODEL 22

6-VOLT, -REMY SYSTEM.

FILE: 316



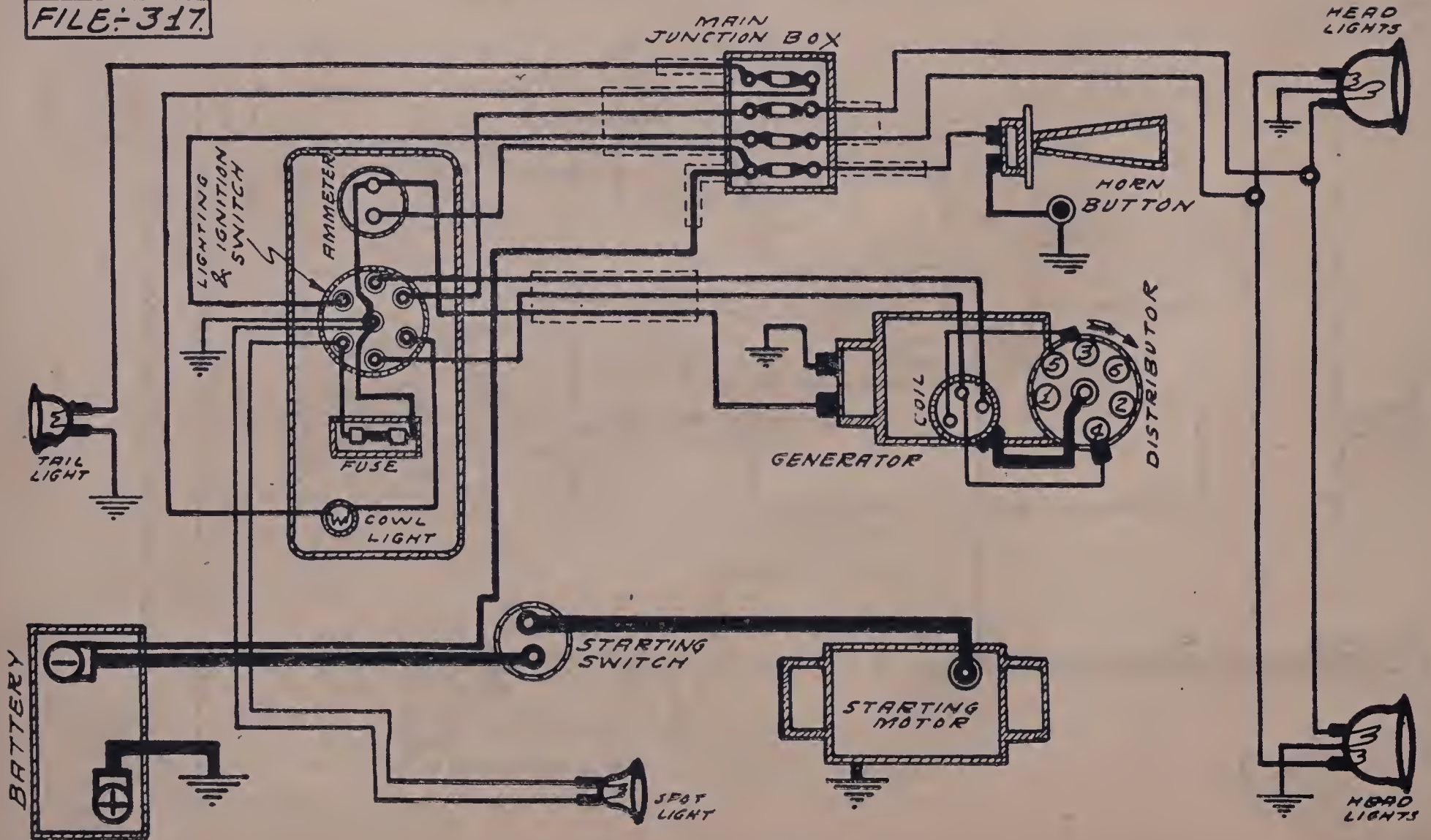
VELIE

1916-1917

MODEL 27

6-VOLT, REMY SYSTEM.

FILE: 317.



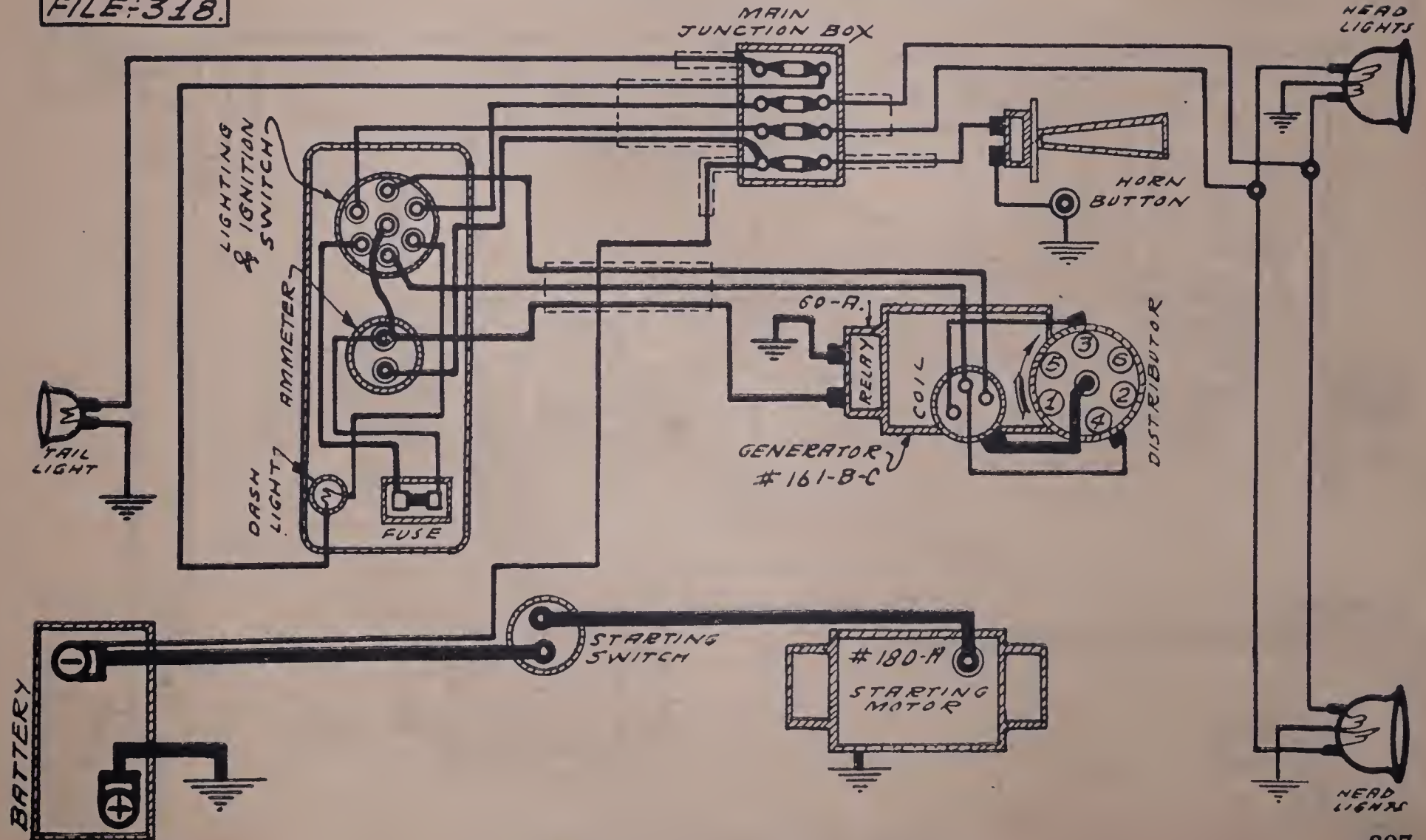
VELIE

1916-1917

MODEL 28

6-VOLT, -REMY SYSTEM.

FILE:318.



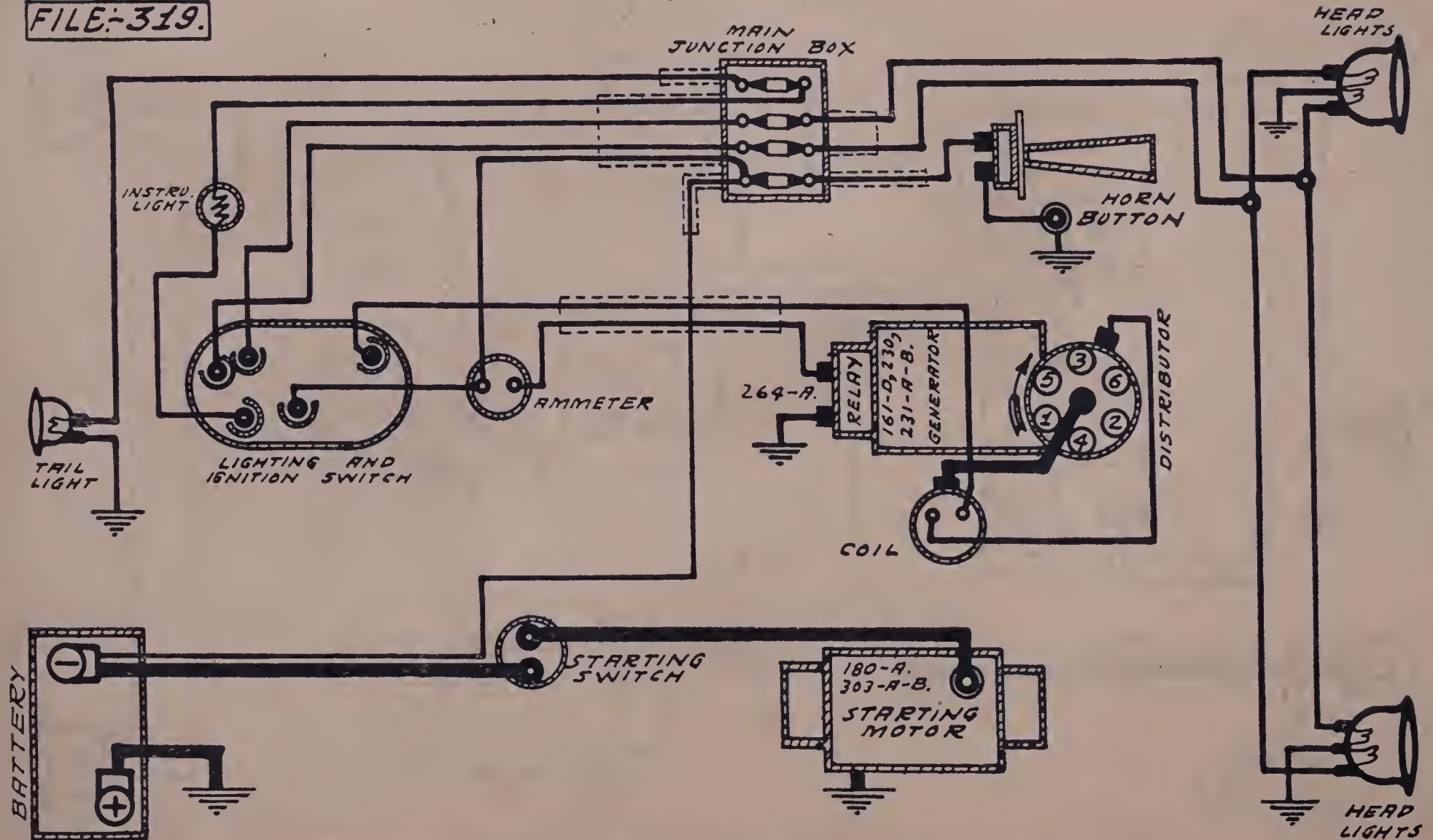
VELIE

1918-1919

MODEL 38.

6-VOLT, REMY SYSTEM.

FILE-319.



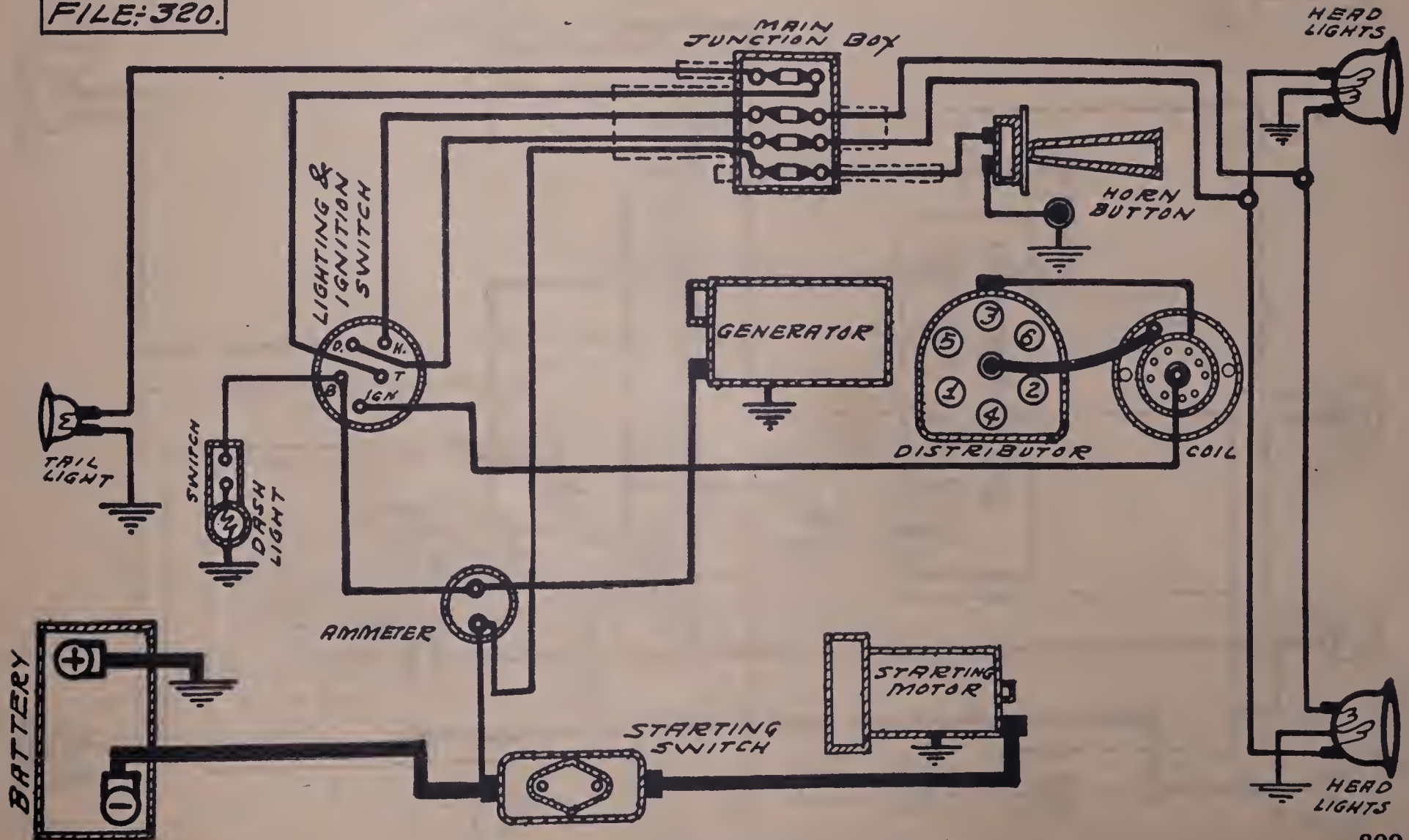
VELIE

1920

MODEL 48.

6-VOLT, BITUR SYSTEM.

FILE: 320.

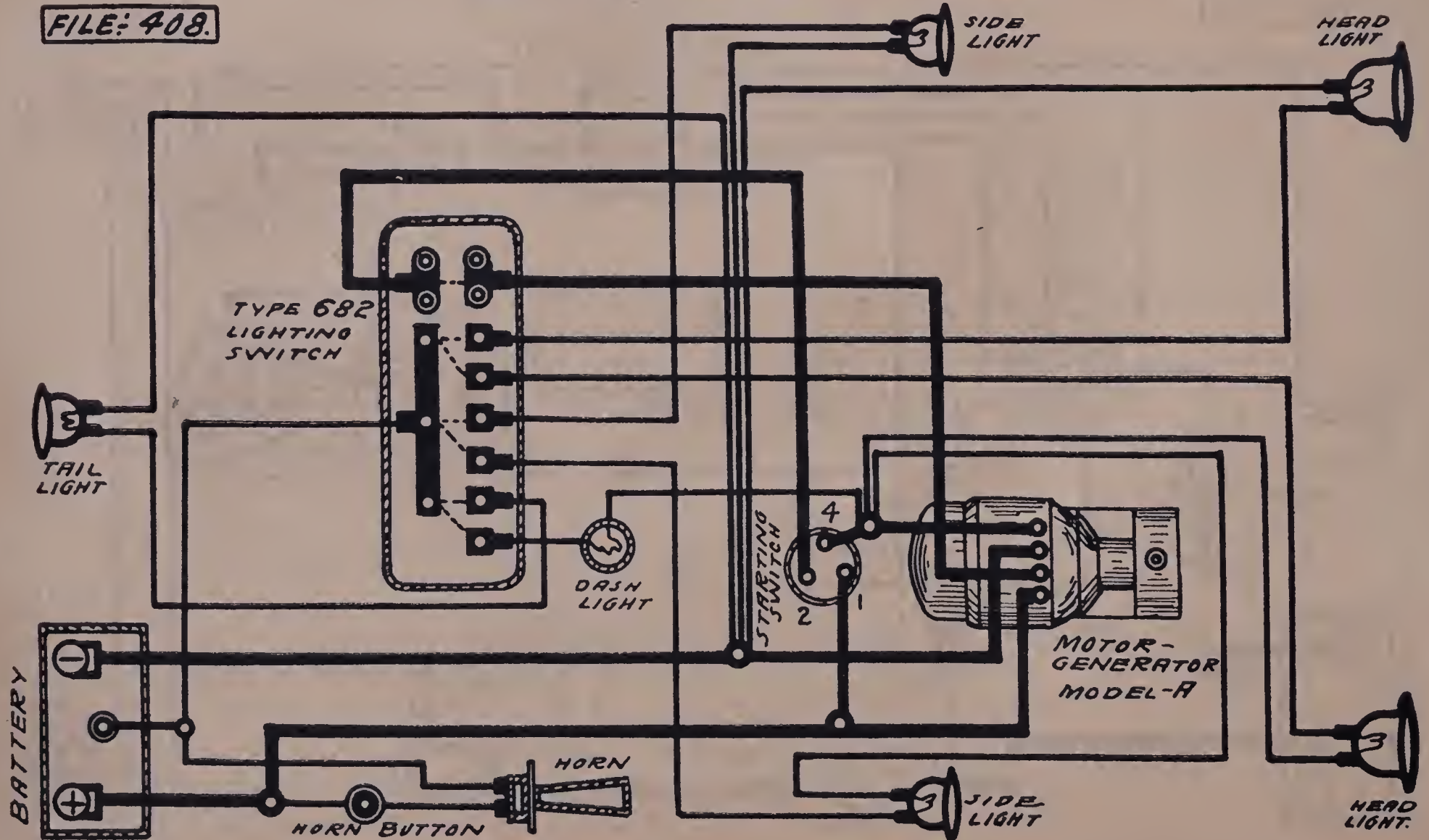


WARREN

1913 MODEL

16-VOLT, NORTH EAST SYSTEM.

FILE: 408.



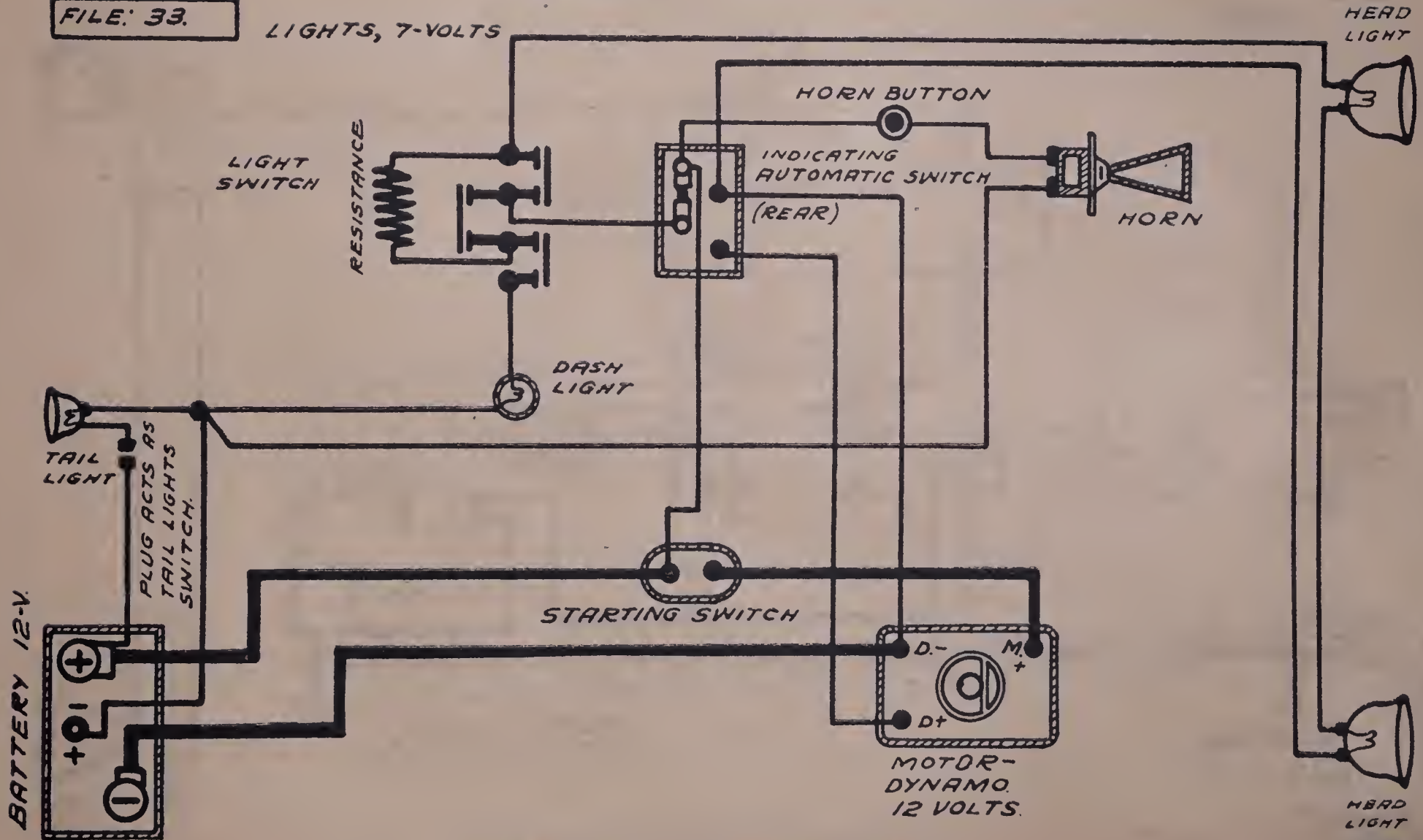
WAYNE

1915

12-VOLT, SPLITDORF SYSTEM.

FILE: 33.

LIGHTS, 7-VOLTS

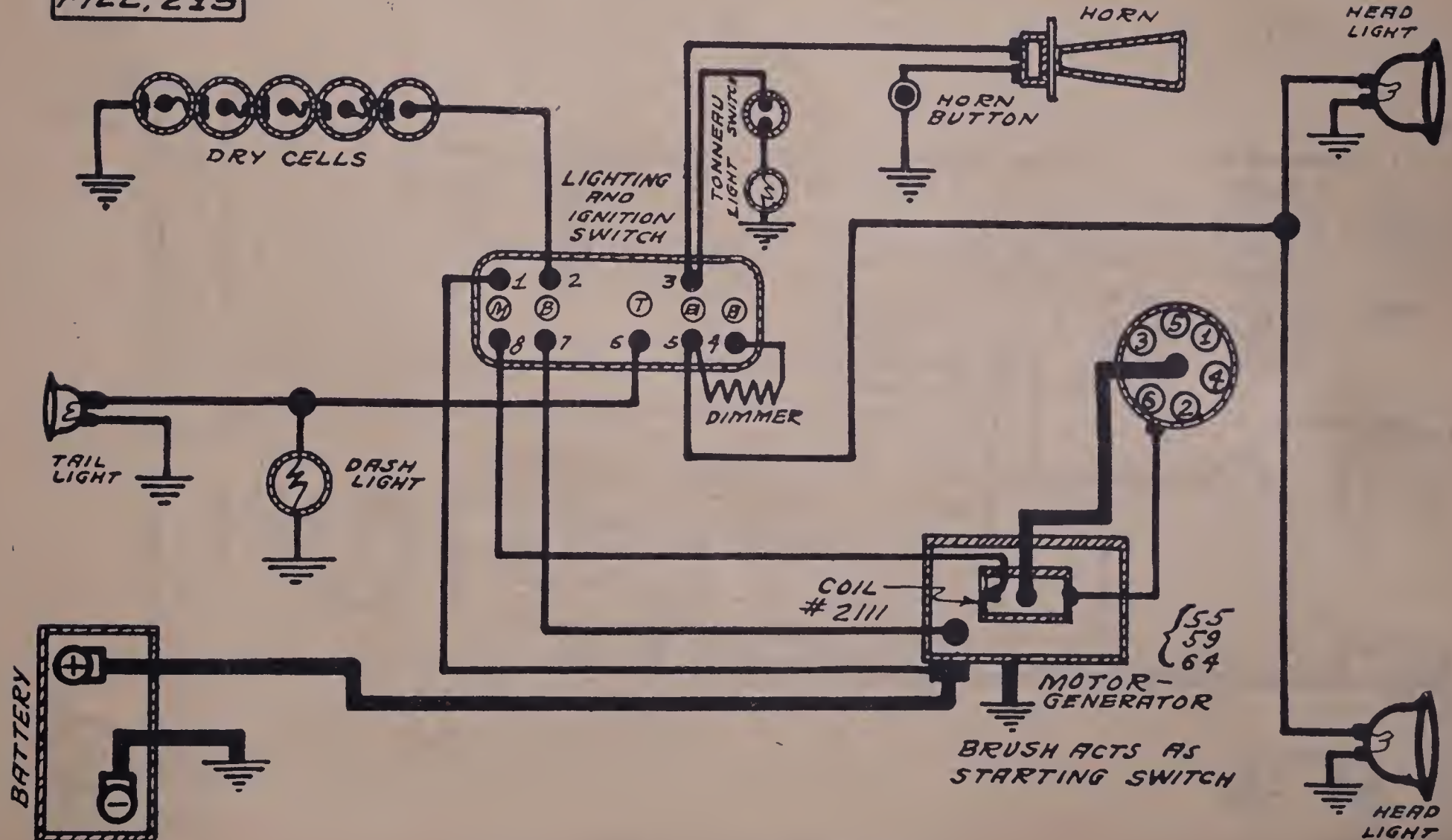


1915

WESTCOTT

MODELS U-6, O-35
6-VOLT, - DELCO SYSTEM.

FILE 215



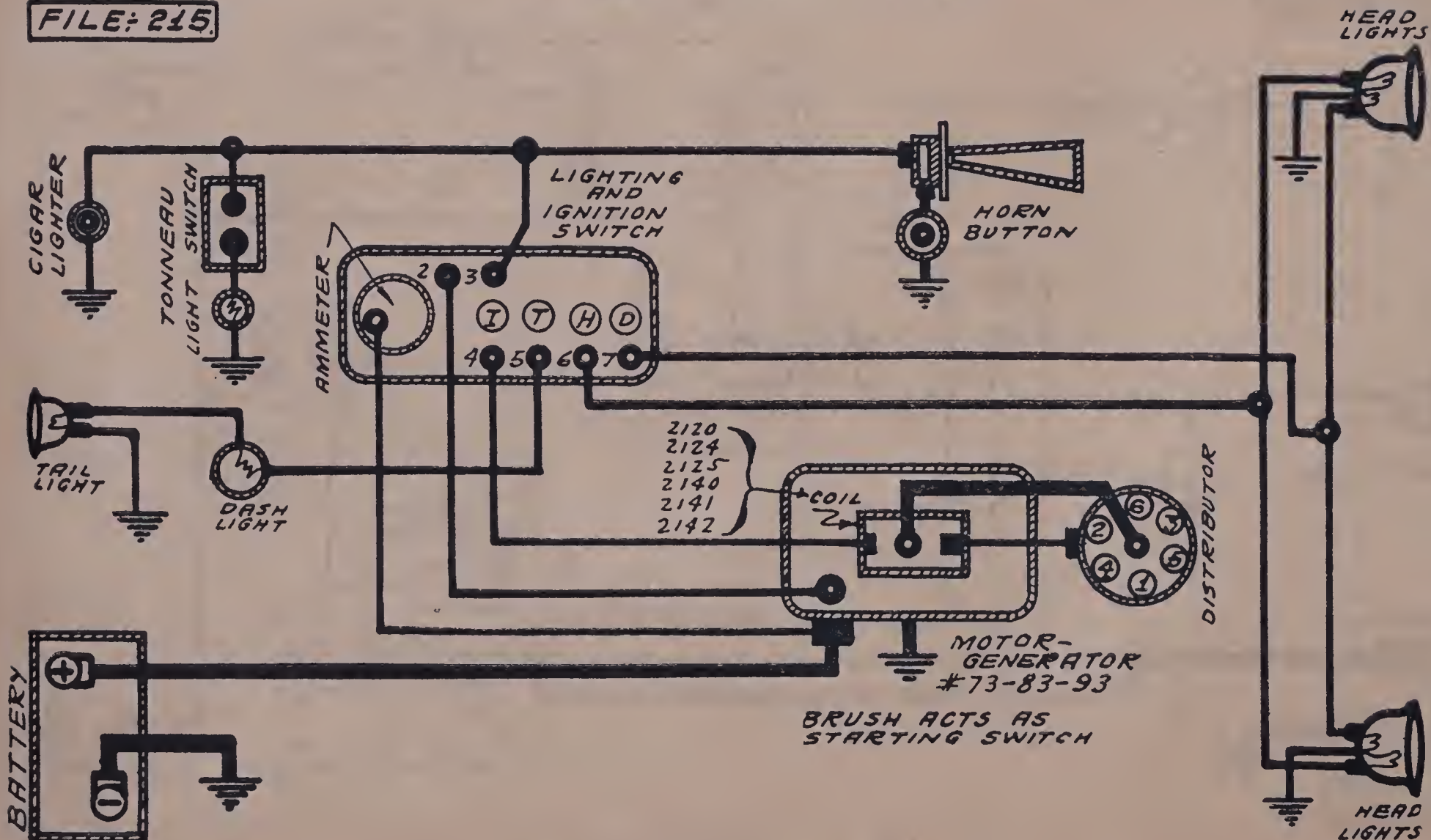
WESTCOTT

1916.

MODEL 41, 51.

6-VOLT, - DELCO SYSTEM.

FILE: 215.



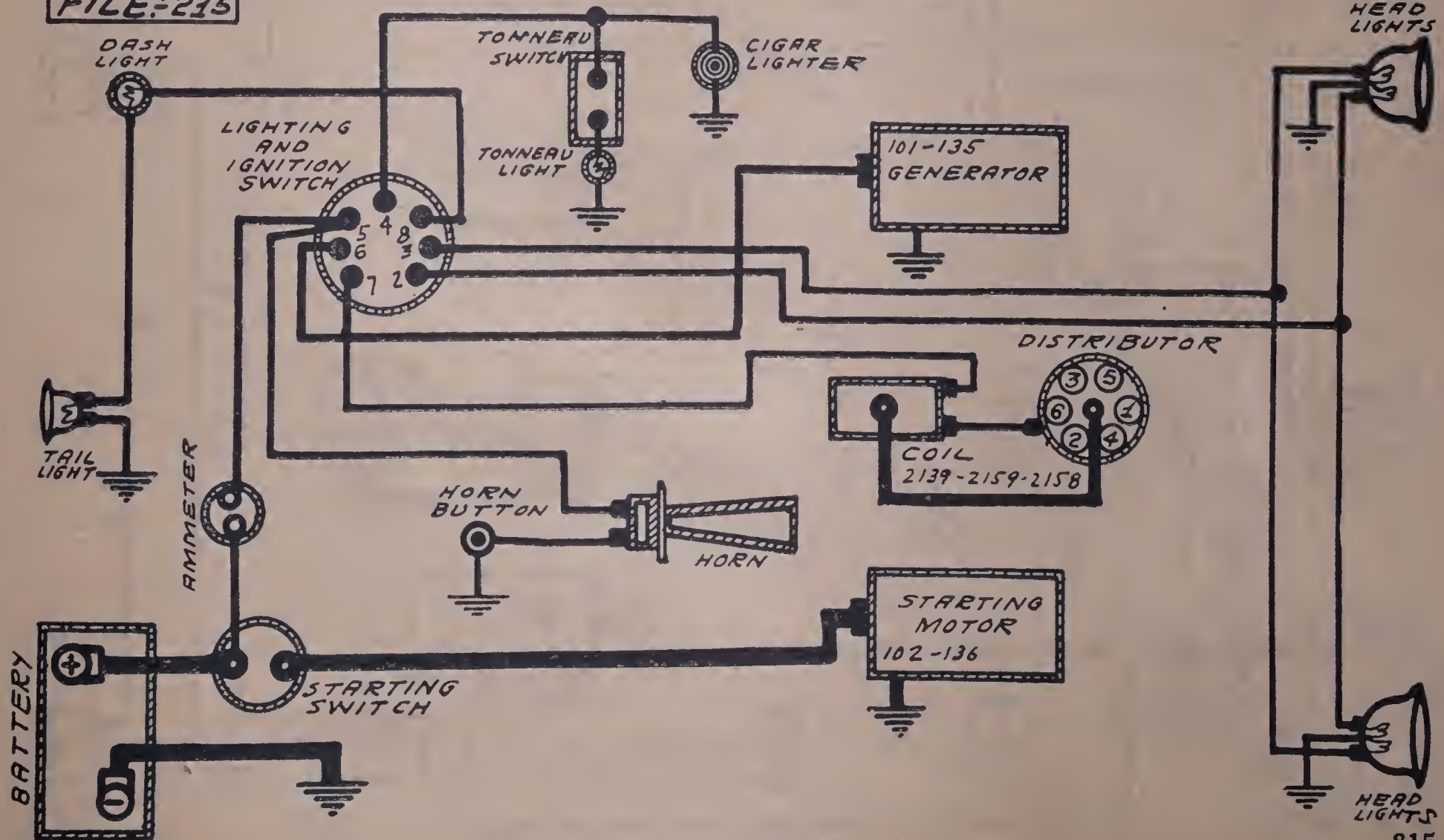
WESTCOTT

1917-1918-1919.

SERIES 17, 18, 19, 18-A.

6-VOLT, DELCO SYSTEM.

FILE: 215



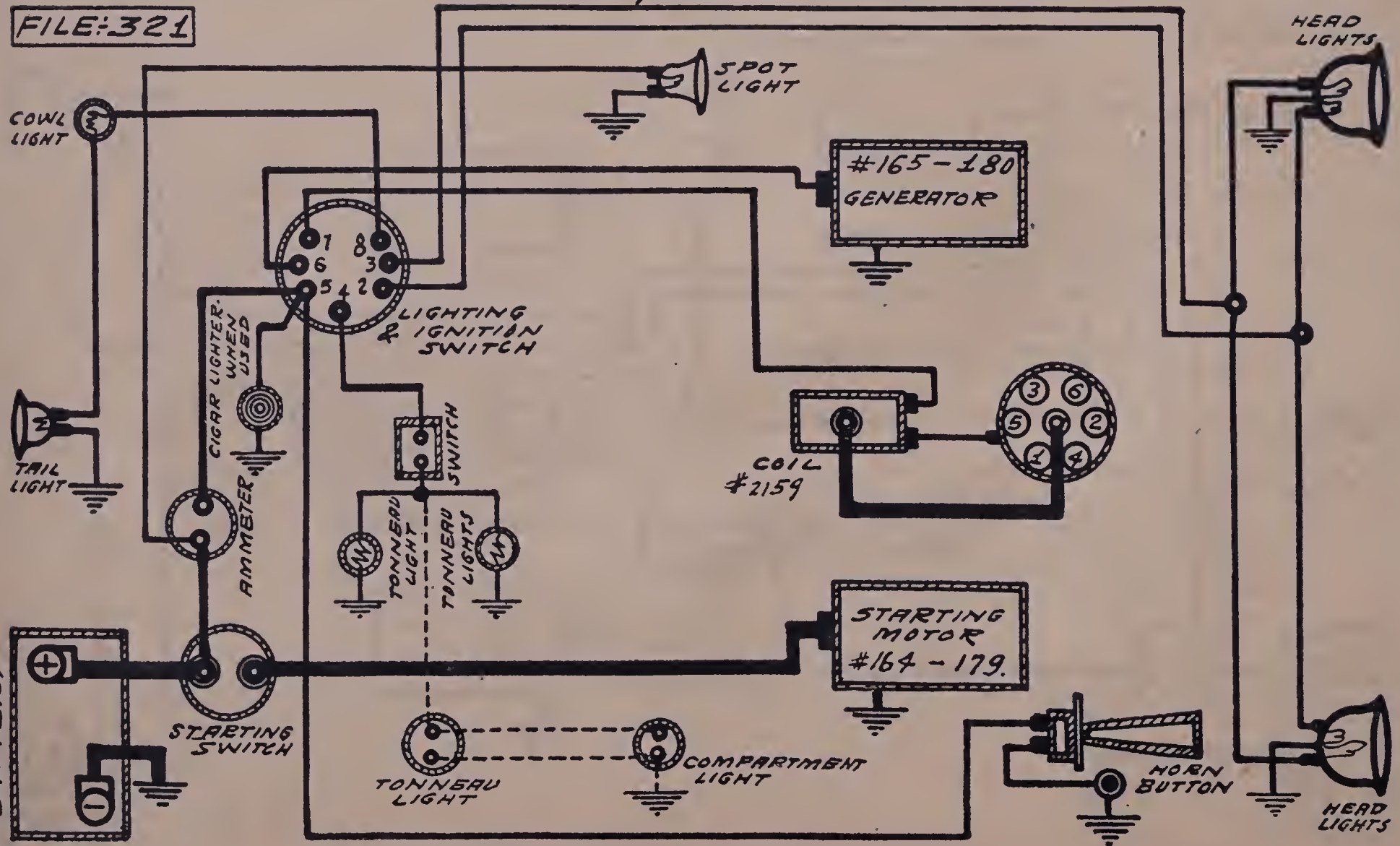
WEST COTT

1919-1920

MODEL-C-38, C-48.

6-VOLT, DELCO SYSTEM.

FILE: 321



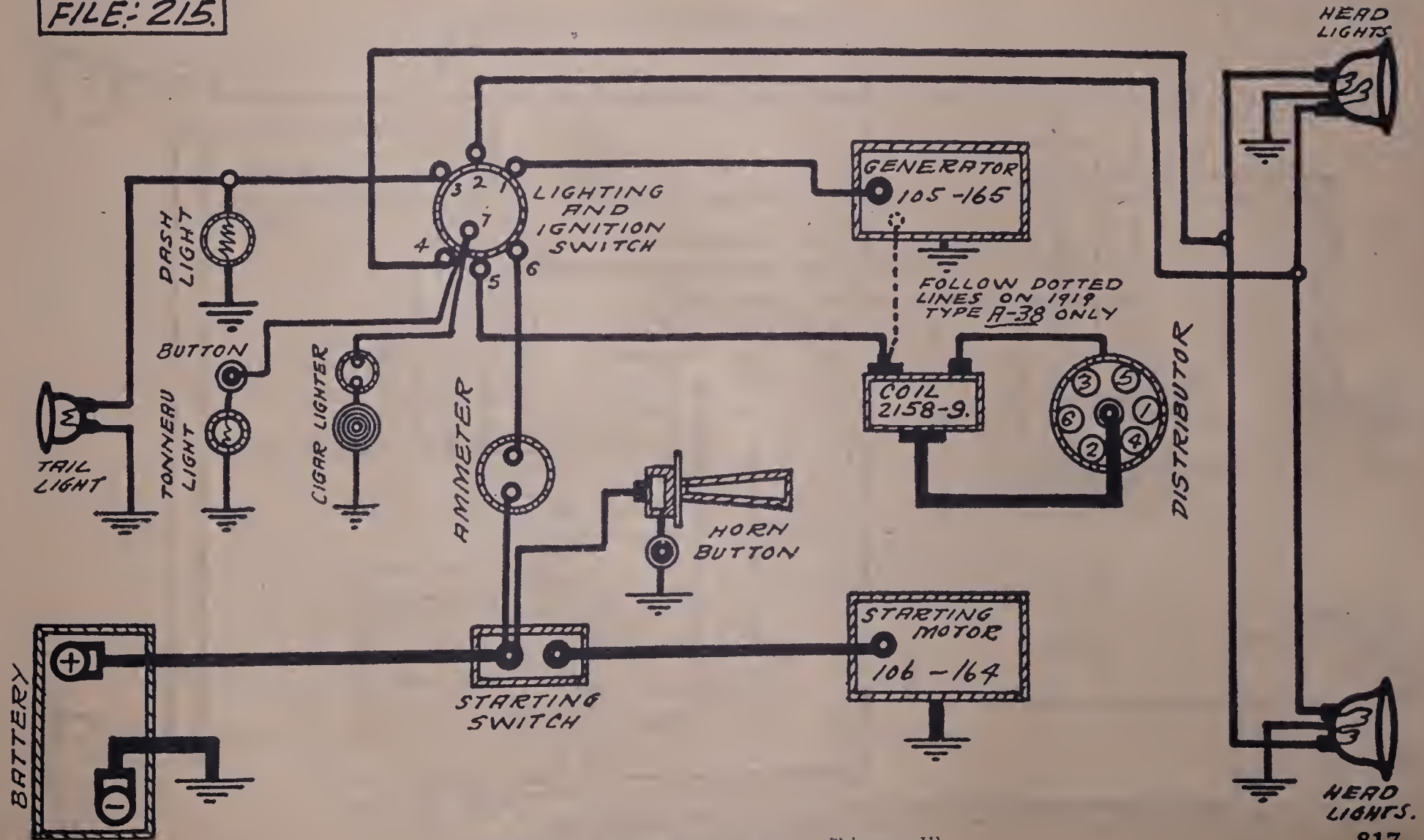
WESTCOTT.

1919-1920

TYPES A-38, C38.

6-VOLT, DELCO SYSTEM.

FILE: 215.

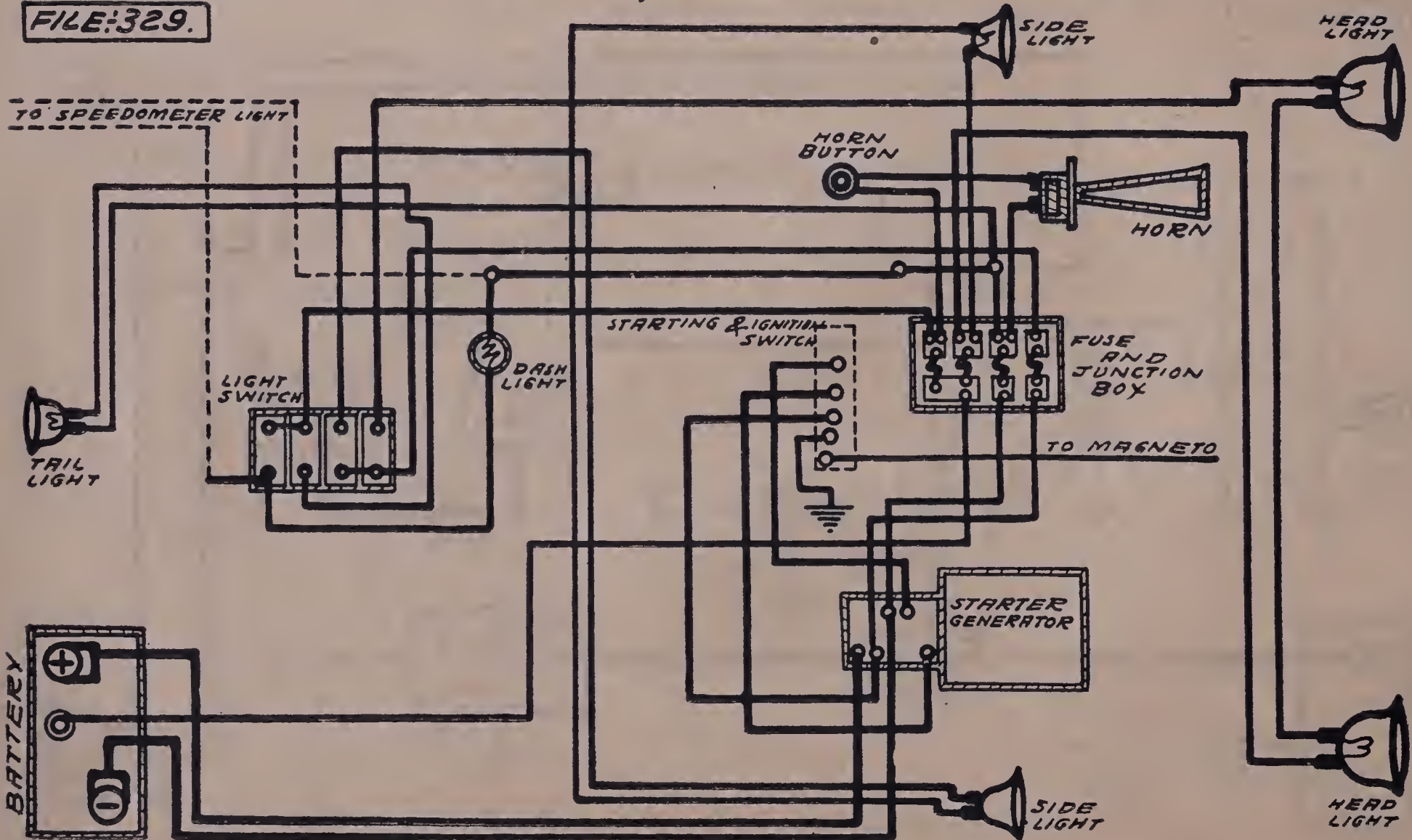


1915-1916

WHITE

MODELS - 30, 40, 60-HP
18-VOLT, WHITE SYSTEM.

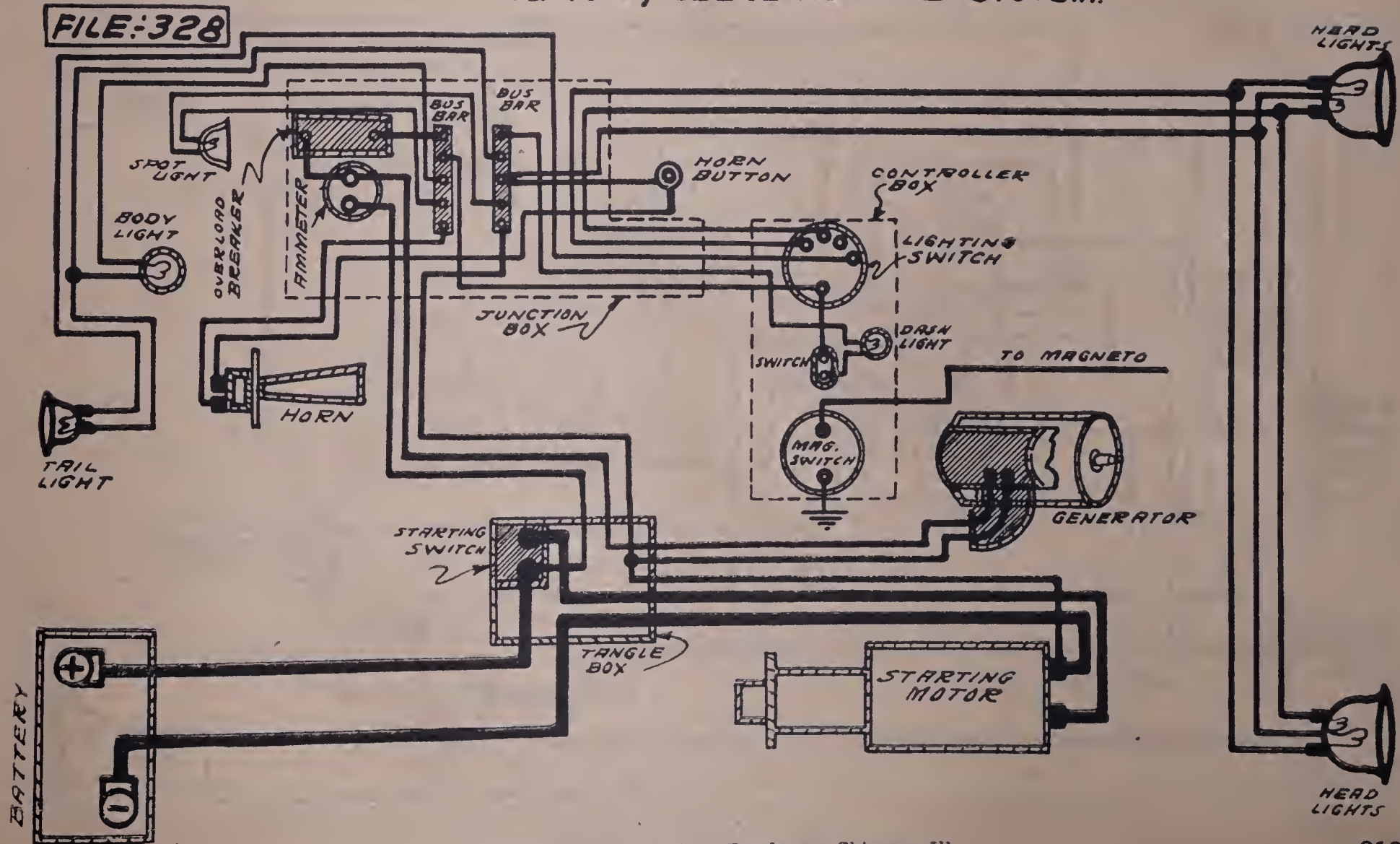
FILE:329.



WHITE

1917-1918

MODEL G. M.
12-VOLT, LEECE-NEVILLE SYSTEM.



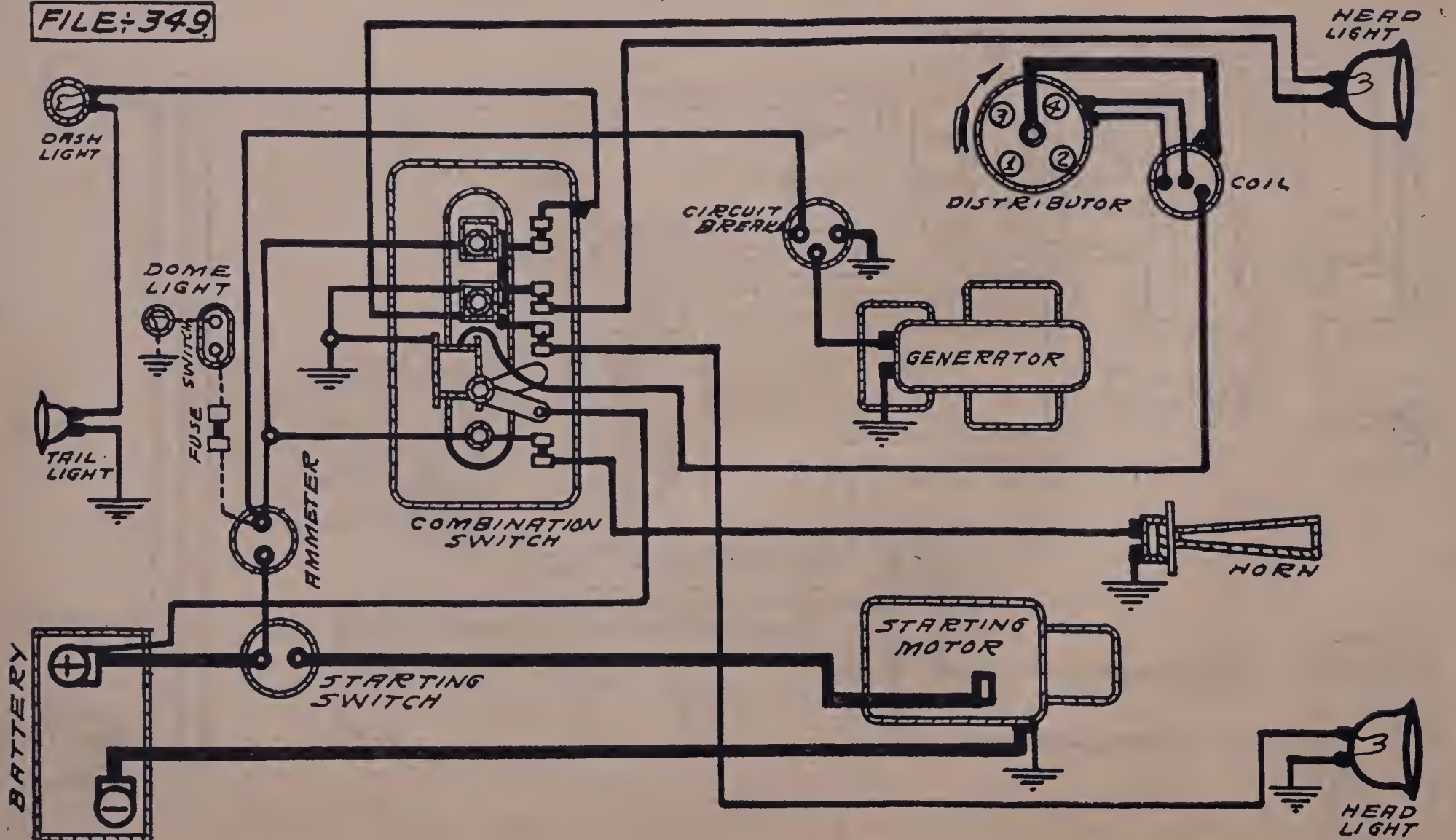
WILLYS-KNIGHT.

1916

MODEL 84-C, R.

6-VOLT, - AUTOLITE SYSTEM. AFTER 127 11,000 MOD. R. CARS.

FILE: 349

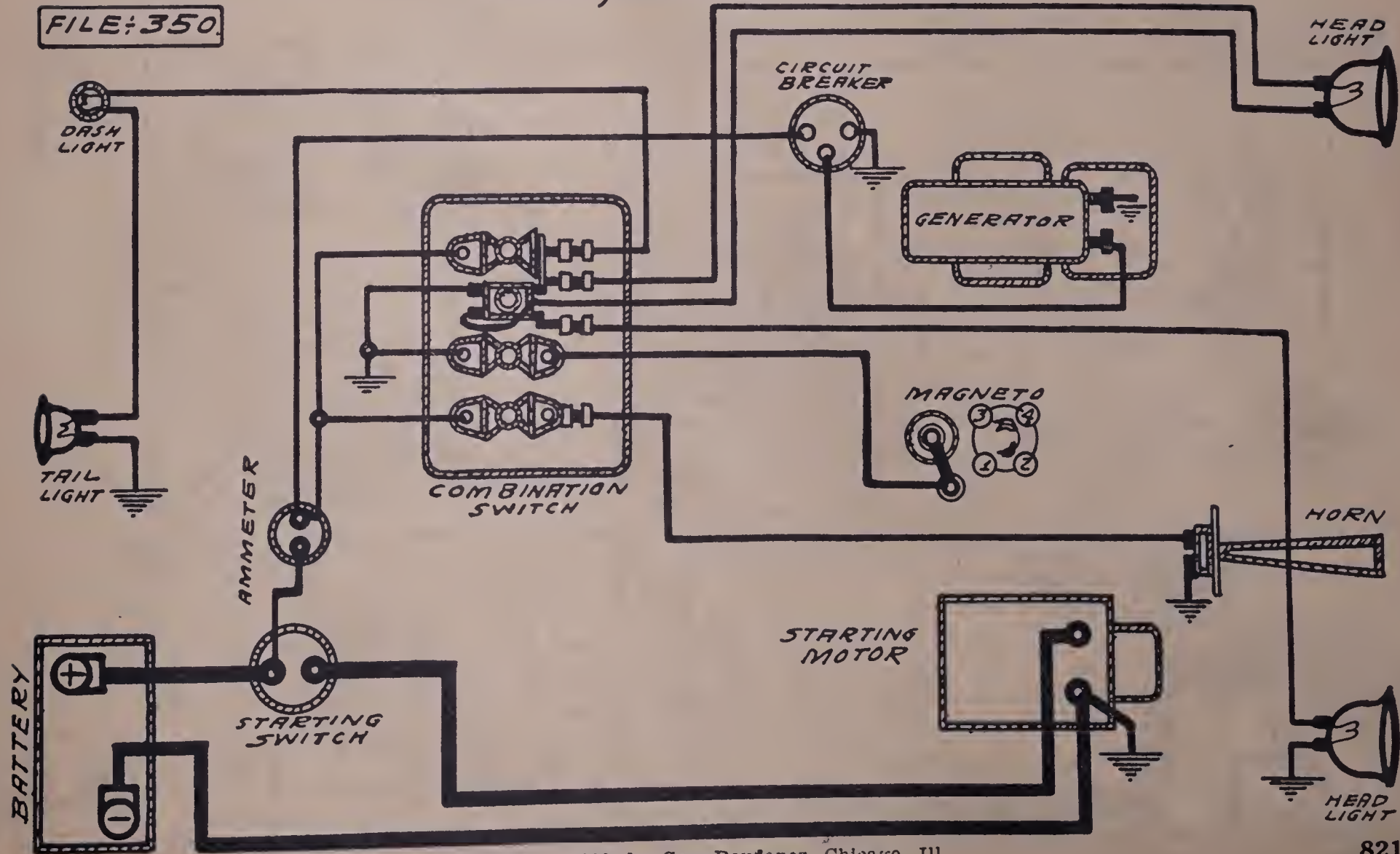


WILLYS-KNIGHT

1916

MODEL 84,-R,-T,
6-VOLT, AUTOLITE SYSTEM.

FILE: 350.



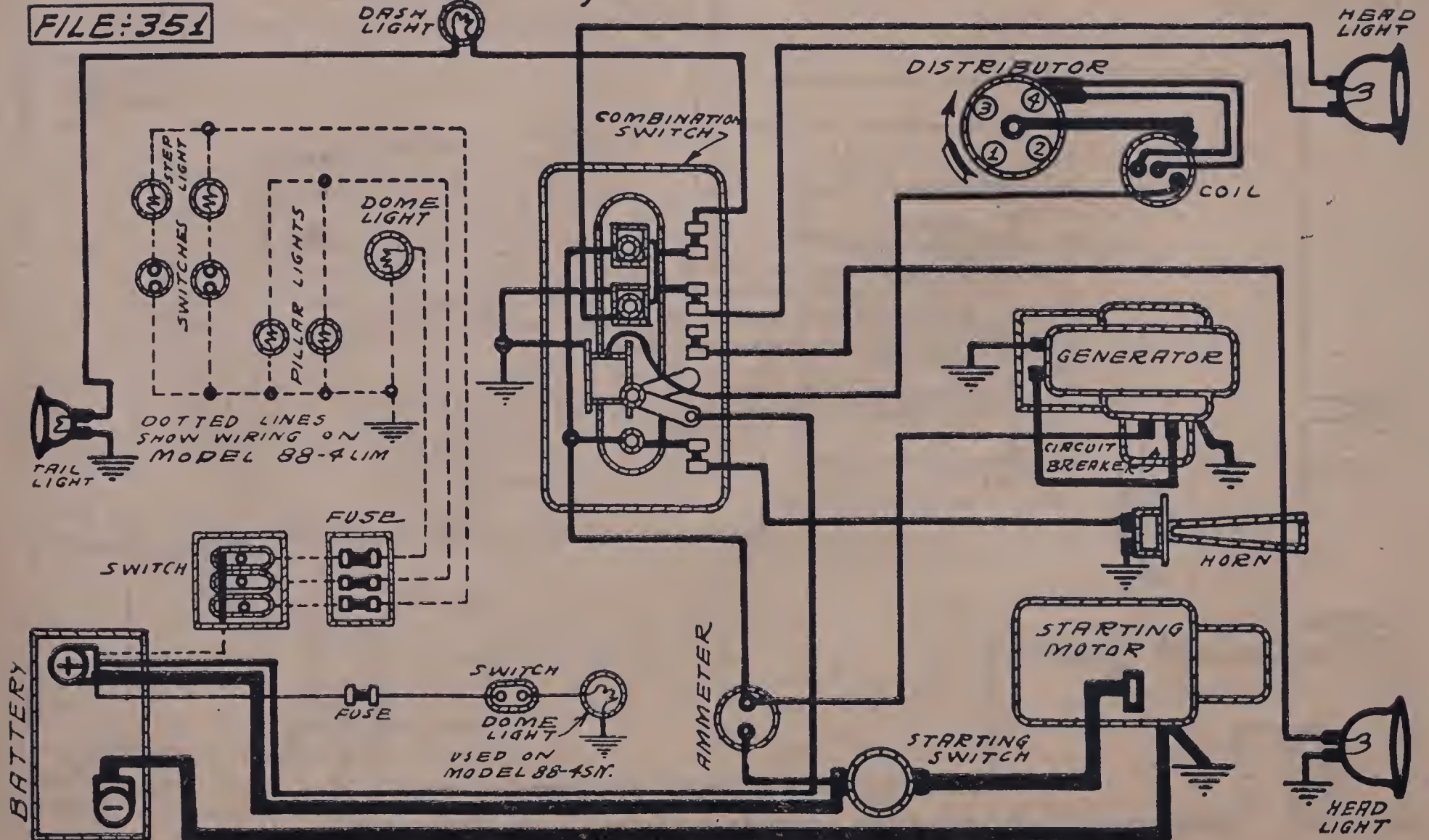
WILLYS-KNIGHT

1917-1918

MODEL 88-4,-T,-SN-LIM.

6-VOLT, AUTOLITE SYSTEM.

FILE:351



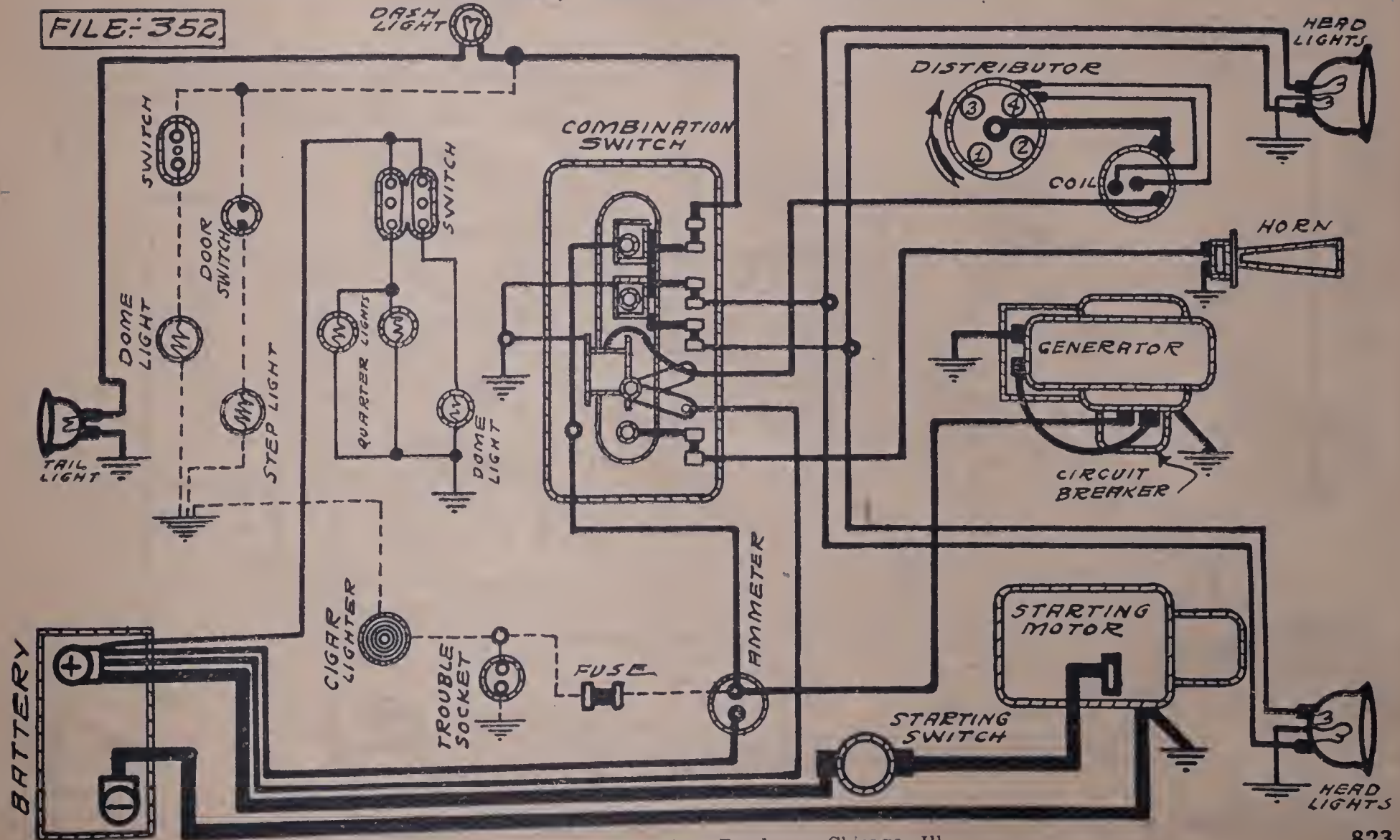
WILLYS-KNIGHT

1917-1918.

MODEL 88-4; BRO.-C; SN, LIM.

6-VOLT, - AUTOLITE SYSTEM.

FILE: 352



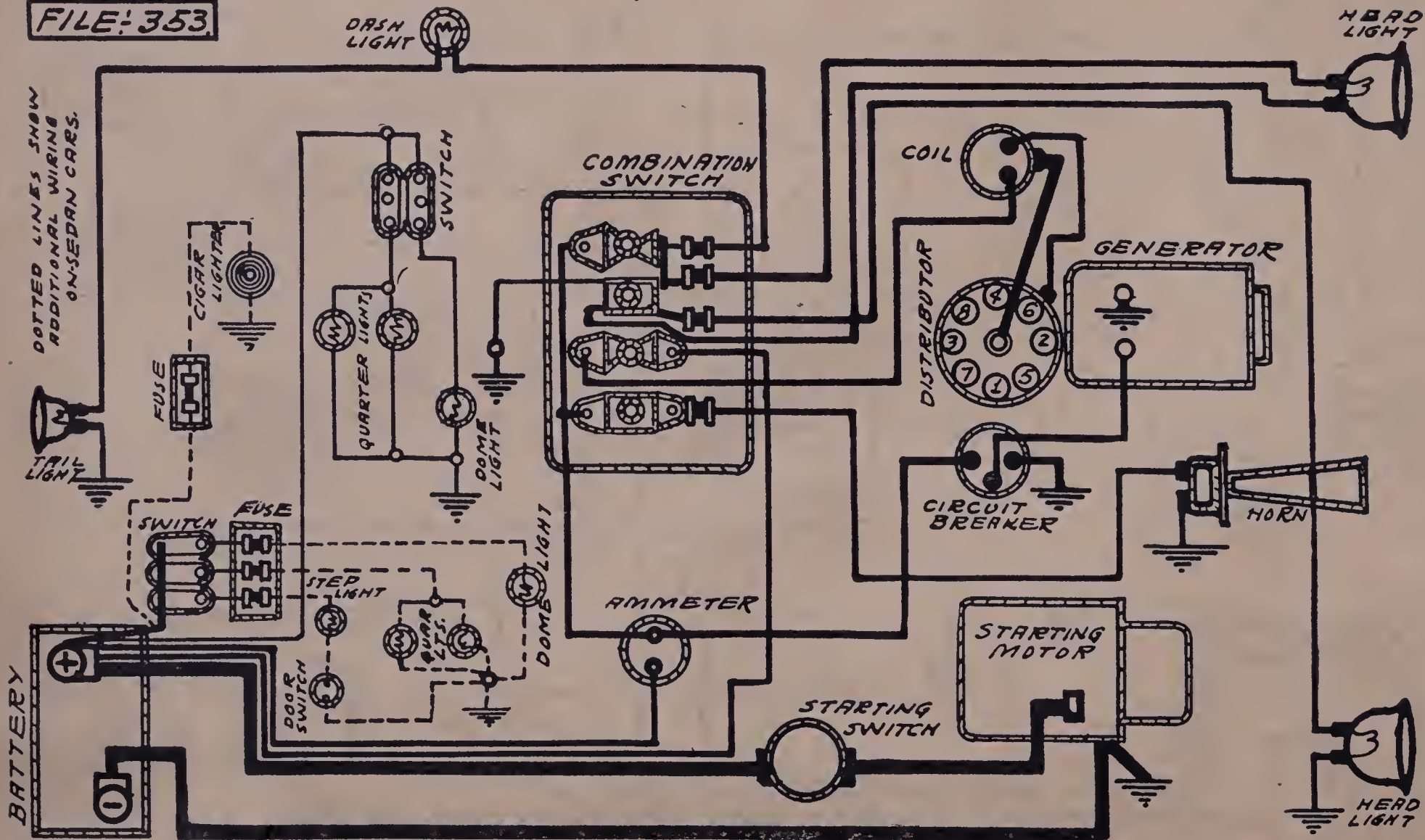
WILLYS-KNIGHT

1917-1918.

MODEL-88-B, -SN, -C, -R, -LIM, -T

6-VOLT, AUTOLITE SYSTEM.

FILE: 353.



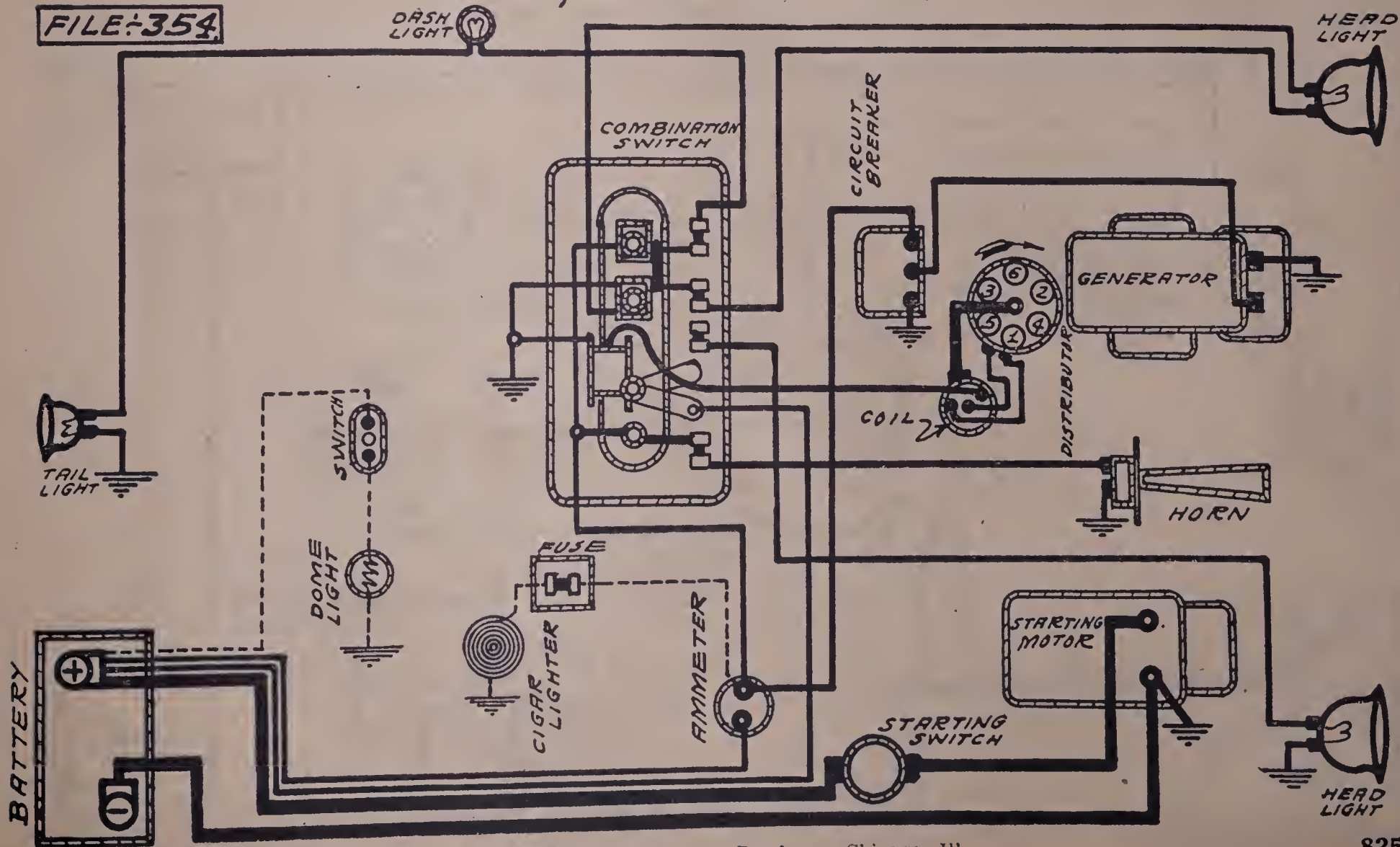
WILLYS-KNIGHT.

1918.

MODEL-89; GLR, -SN, -T.

6-VOLT, -AUTOLITE SYSTEM.

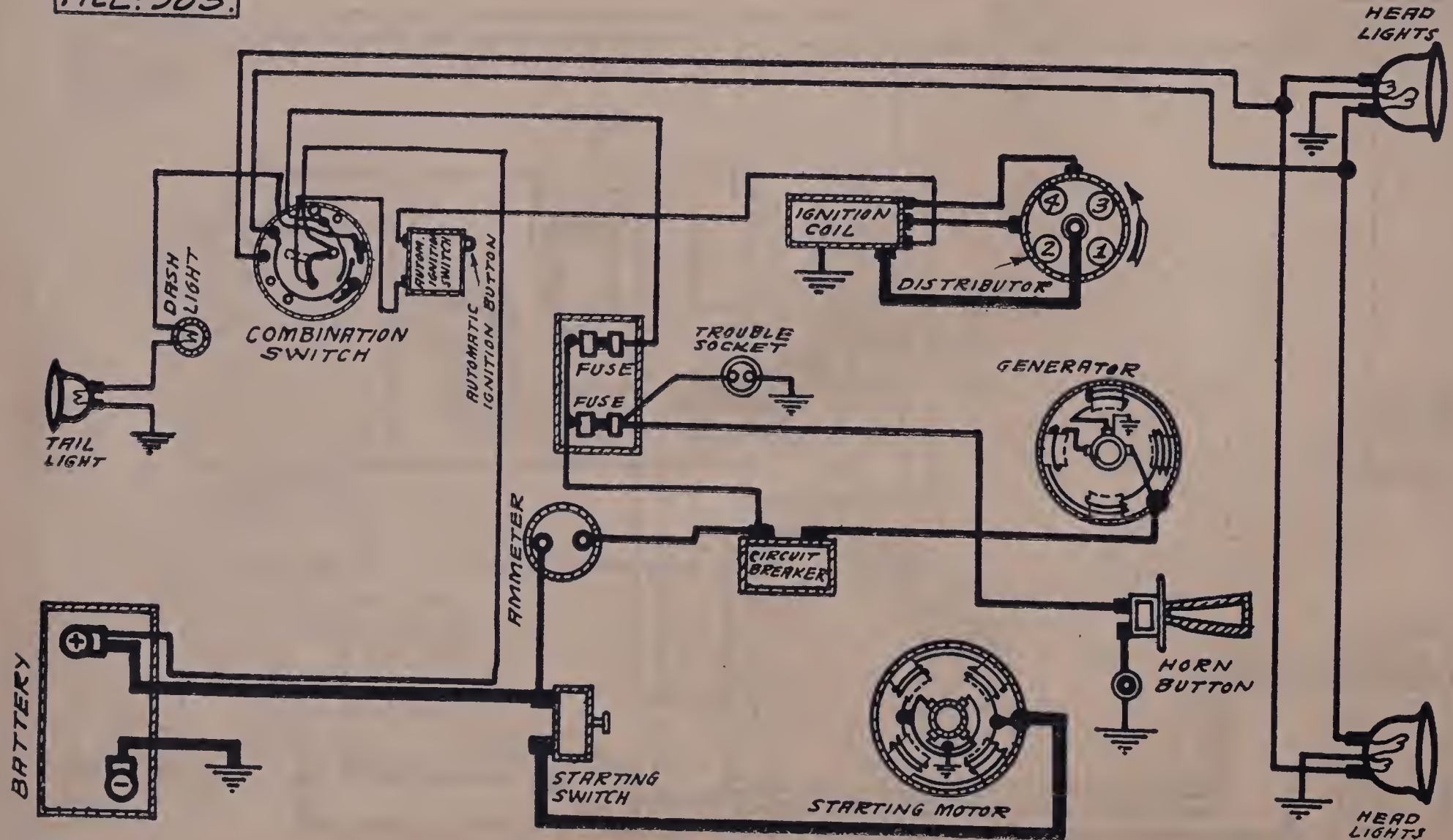
FILE-354



WILLYS-KNIGHT.

1919-1920 MODELS
6-VOLT, -AUTOLITE SYSTEM.

FILE: 385.



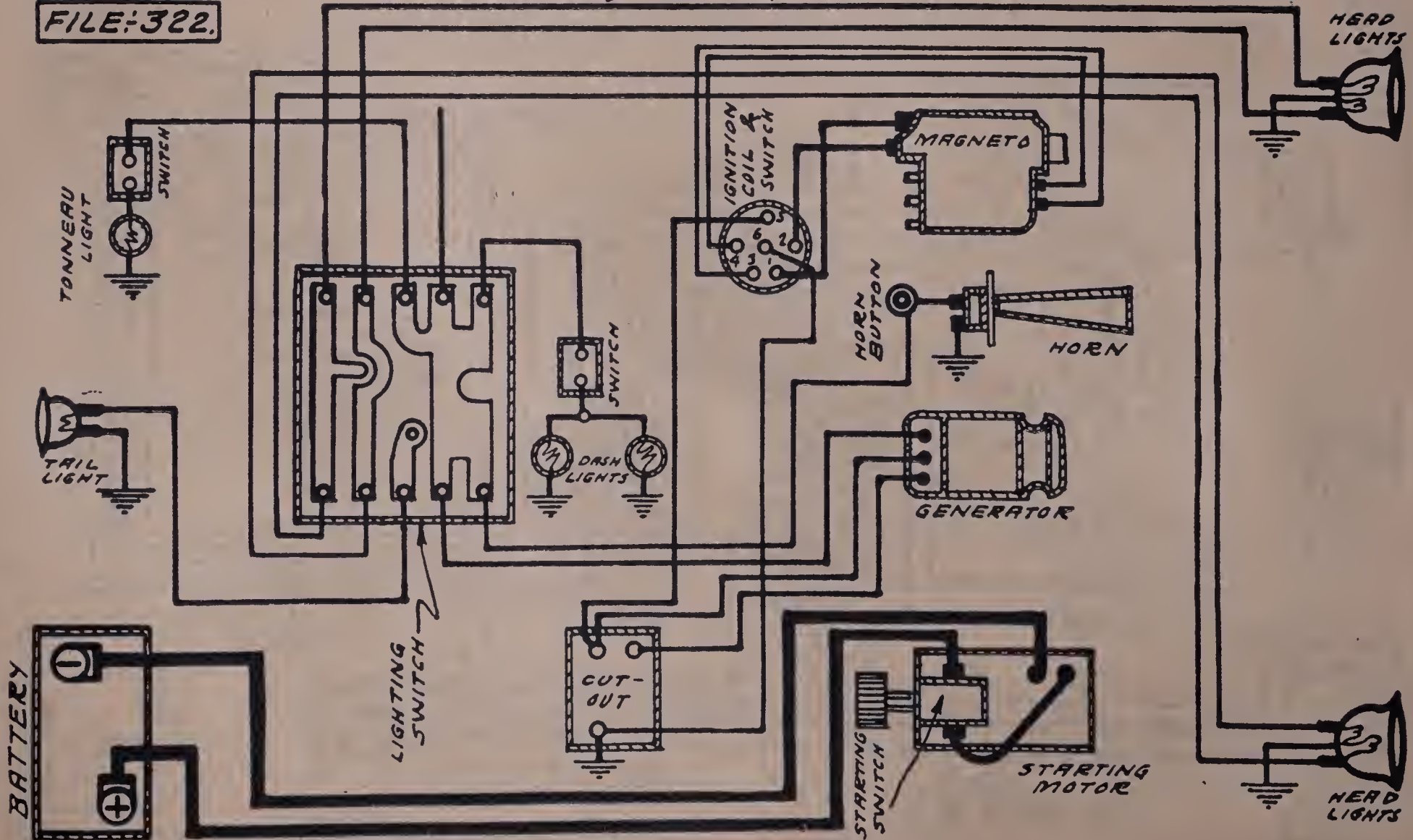
WINTON

1914-1915.

MODEL 21.

6-VOLT, -GRAY & DAVIS SYSTEM.

FILE: 322.



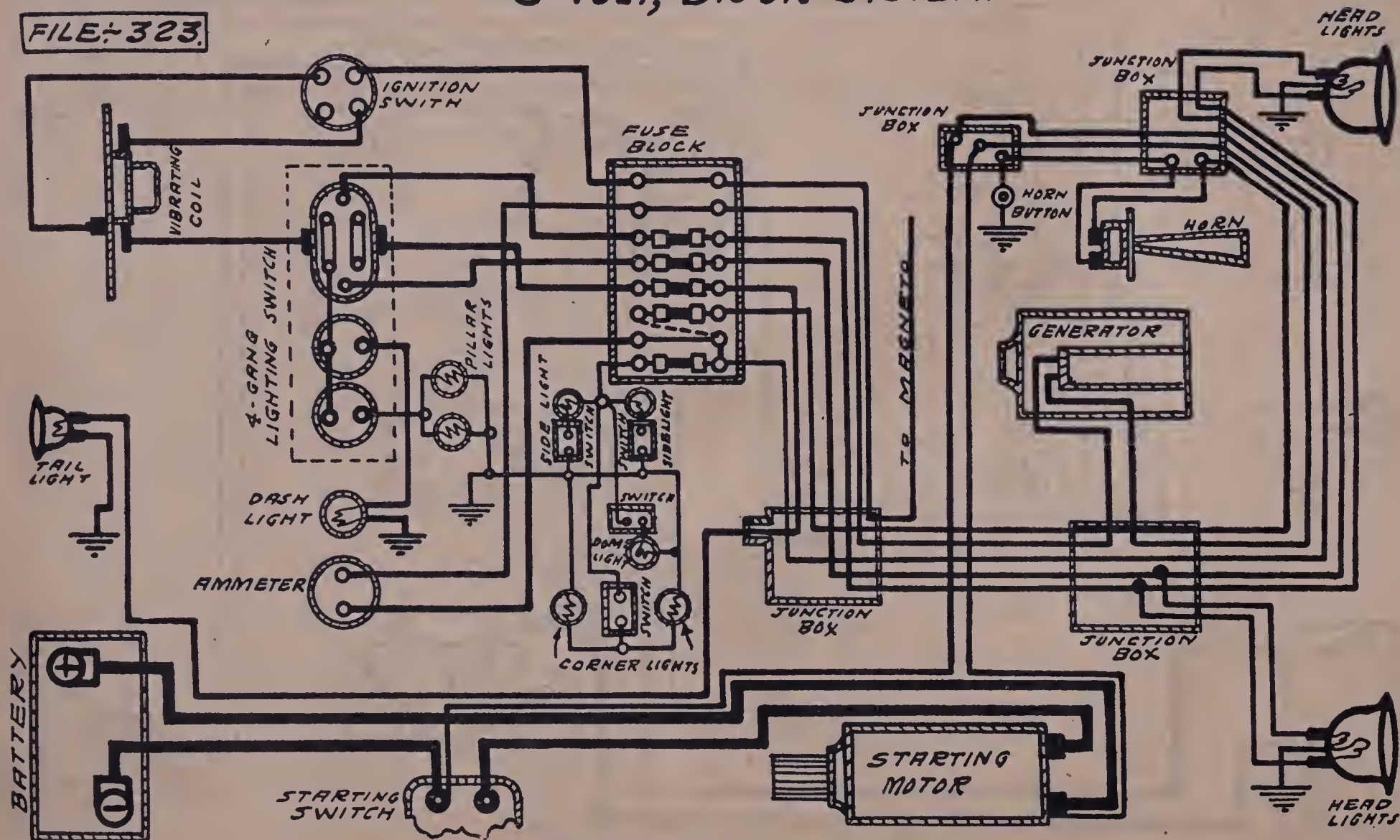
WINTON

1915

MODEL 21-R.

6-VOLT, BIJUR SYSTEM.

FILE: 323.

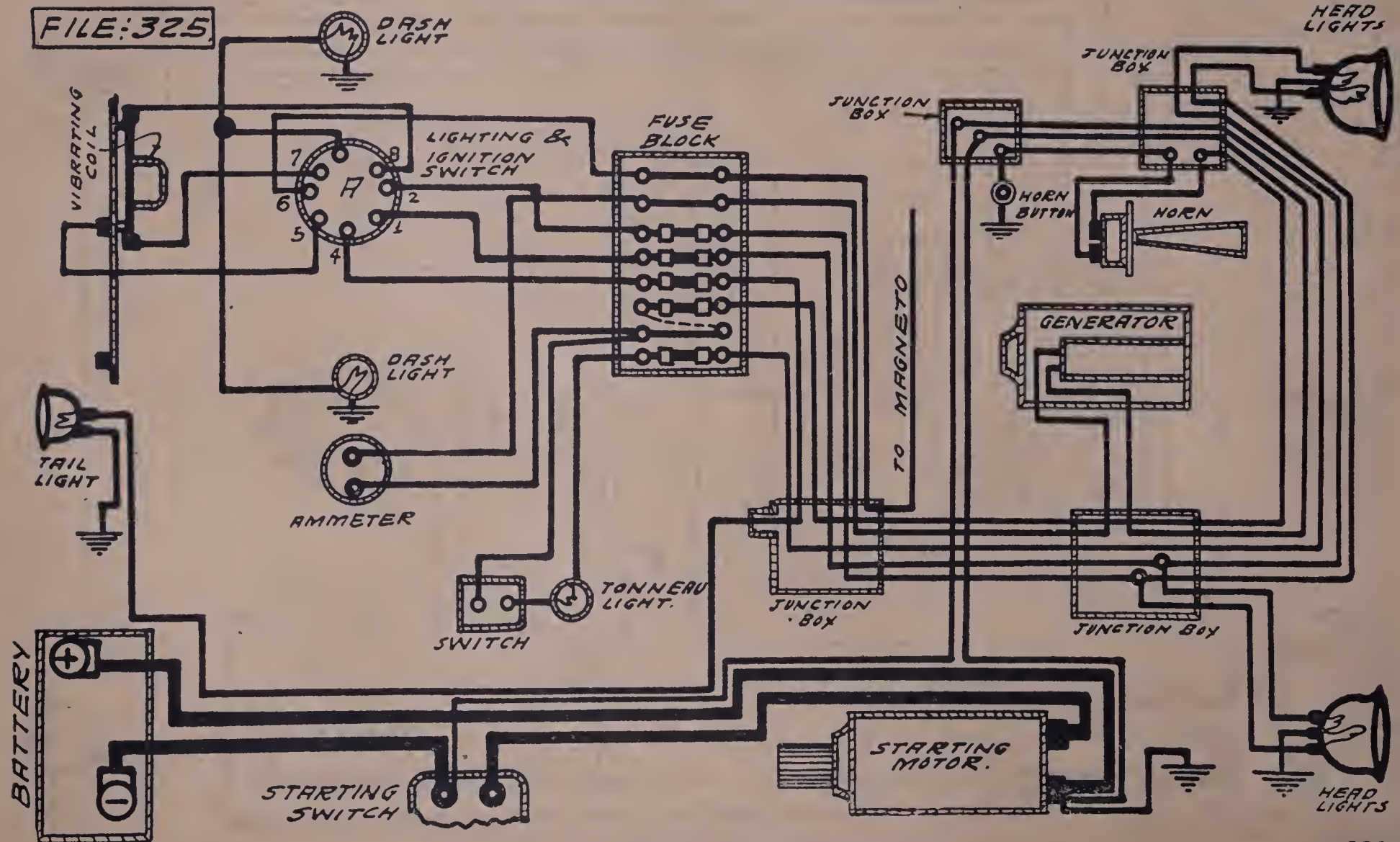


WINTON

1916-1917-1918

MODEL 22,-22-A.

6-VOLT, BIJUR SYSTEM.

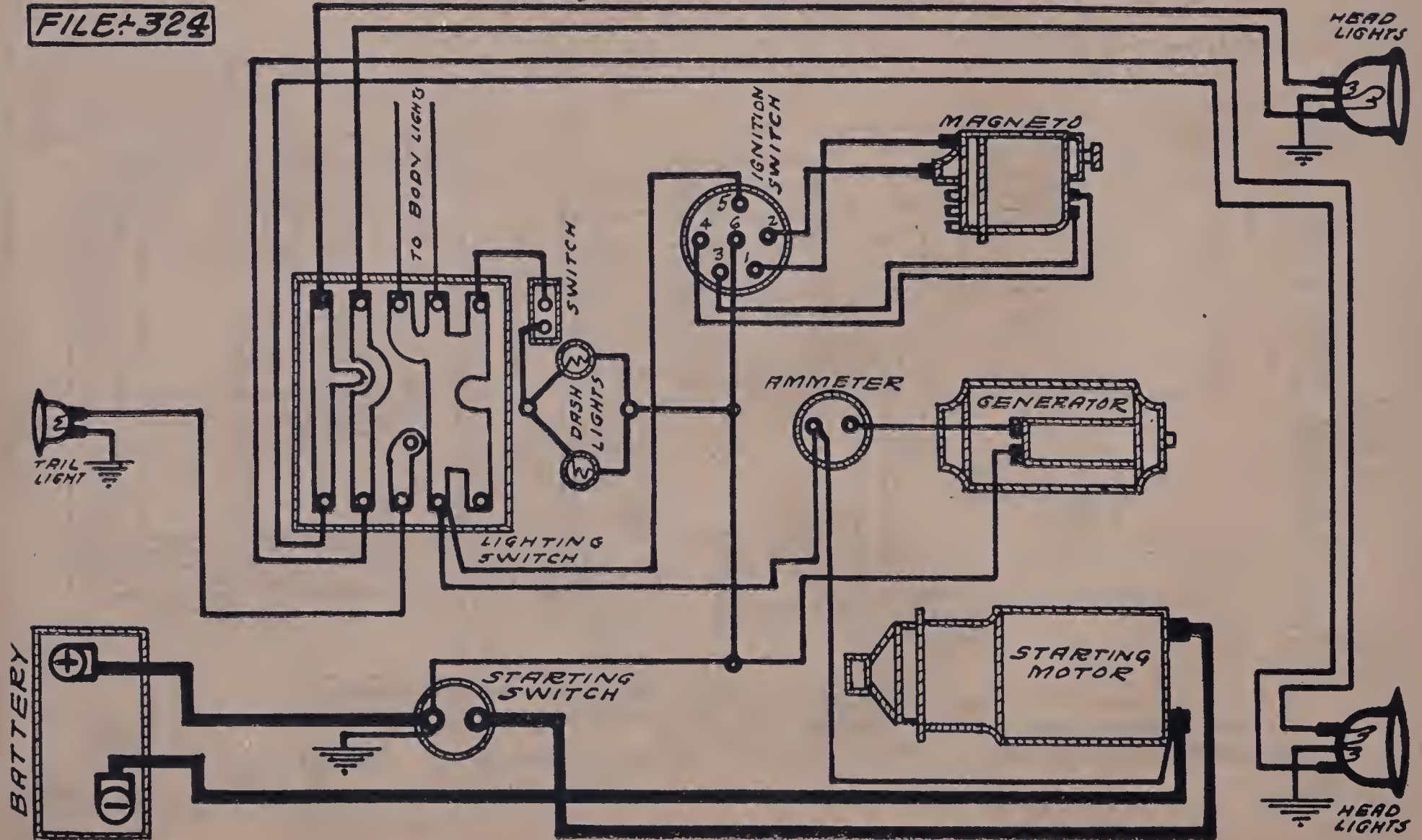


WINTON

1917

ALL MODELS UP TO AND INCLUDING 21
6-VOLT, - BIJUR SYSTEM.

FILE-324



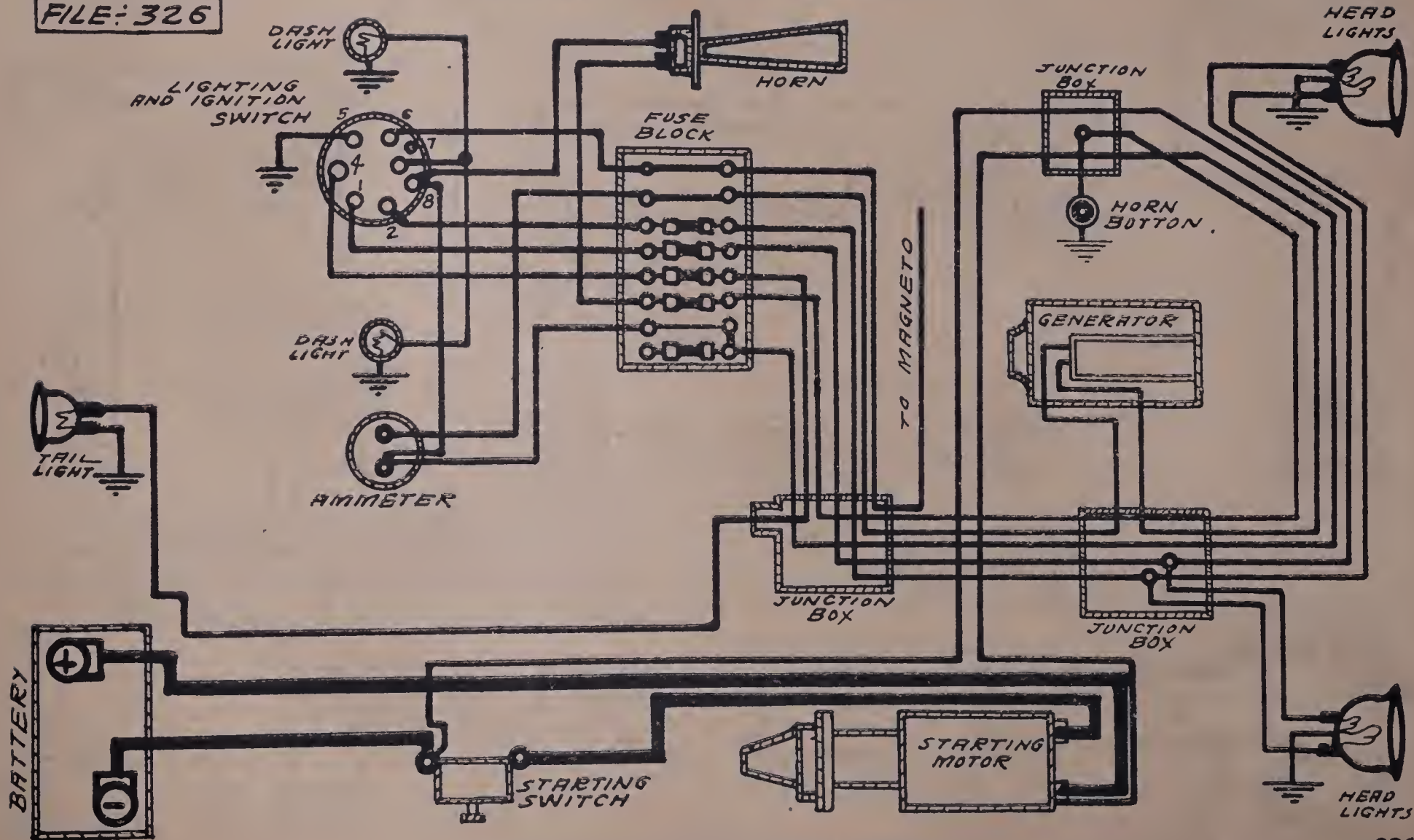
WINTON

1919

MODEL 22.

6-VOLT, BIJUR SYSTEM.

FILE: 326



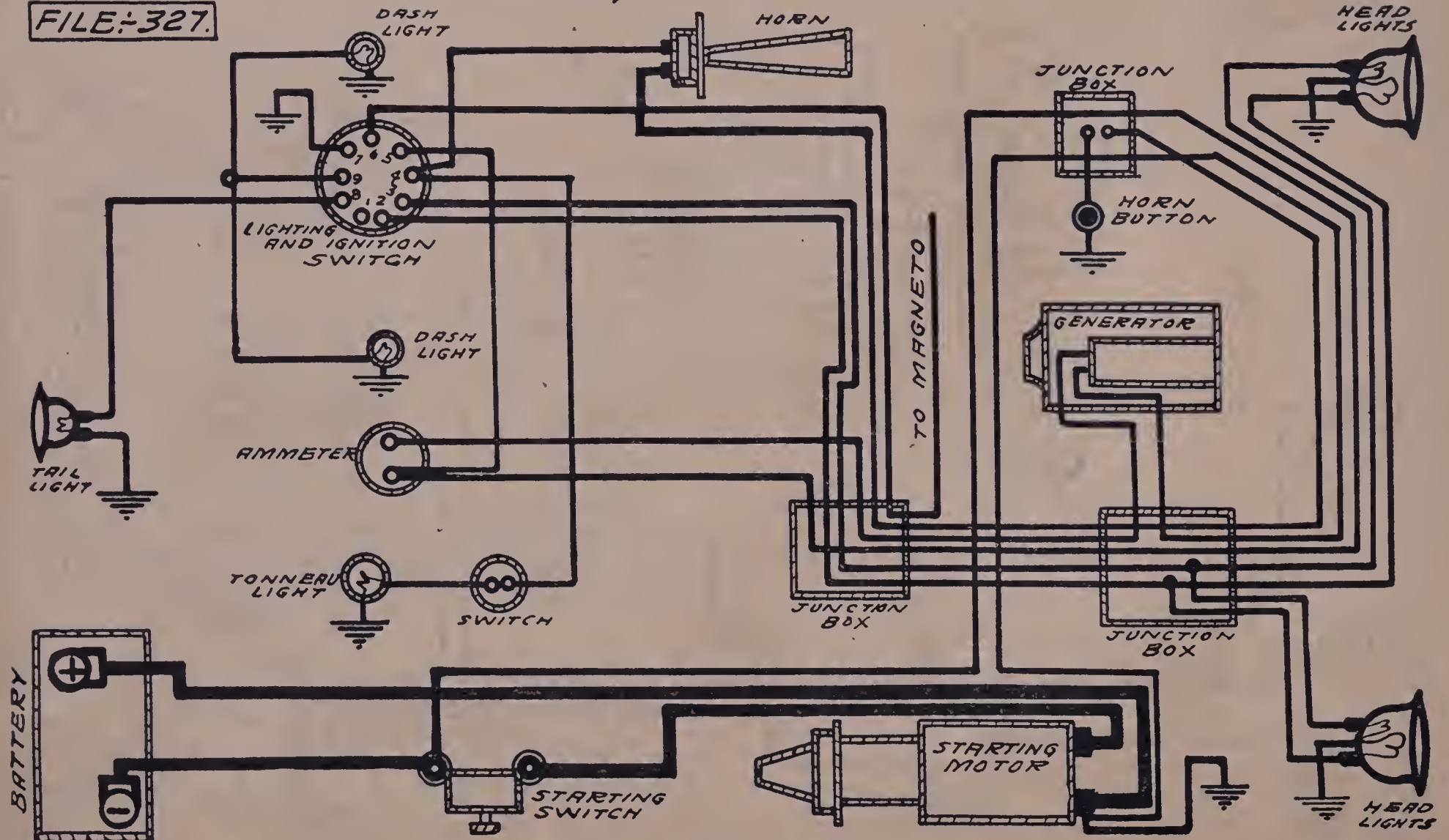
WINTON.

1920

MODEL 25.

6-VOLT, BIJUR SYSTEM.

FILE: 327.



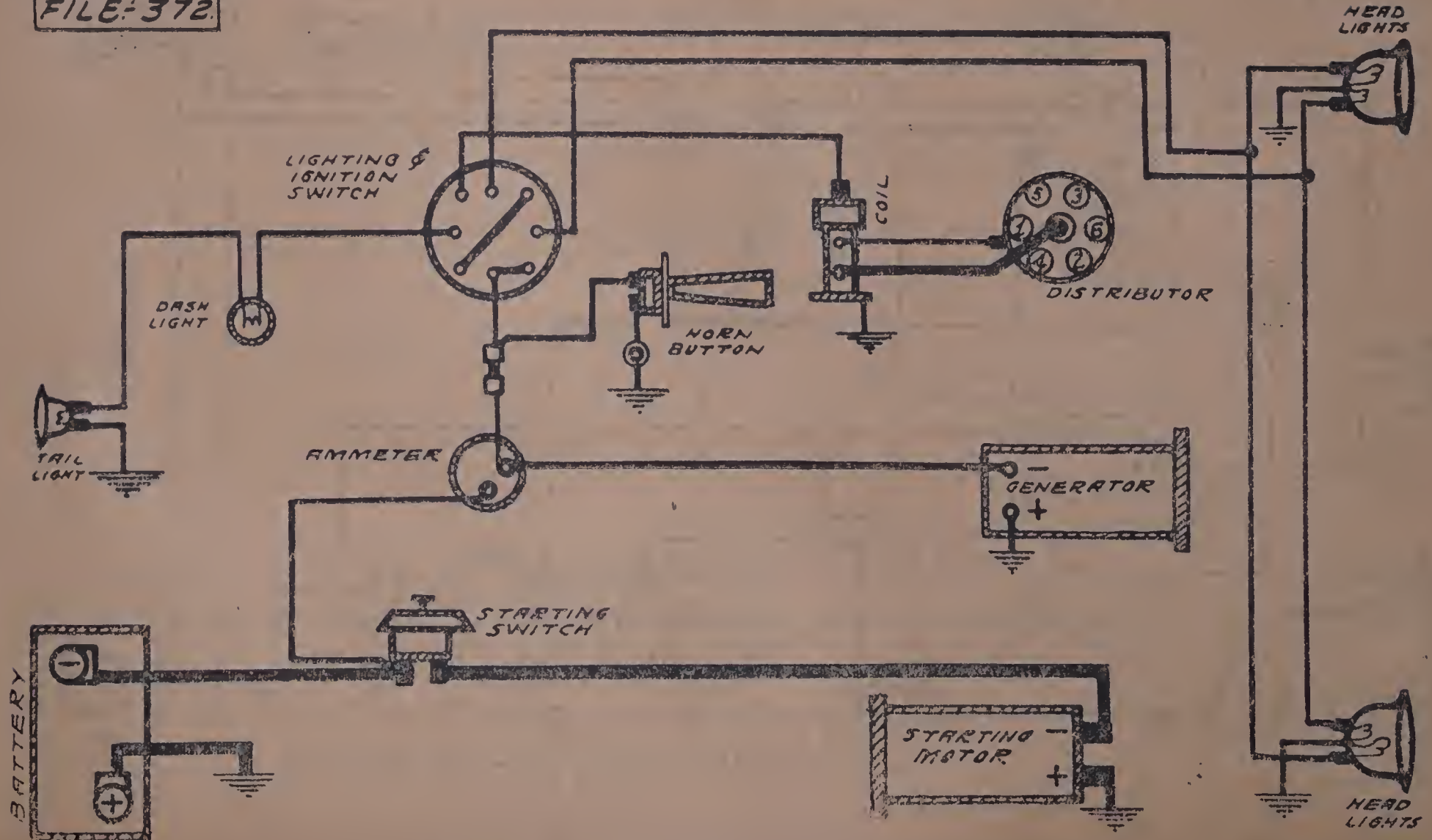
AMERICAN

1919-1920

MODEL-B.

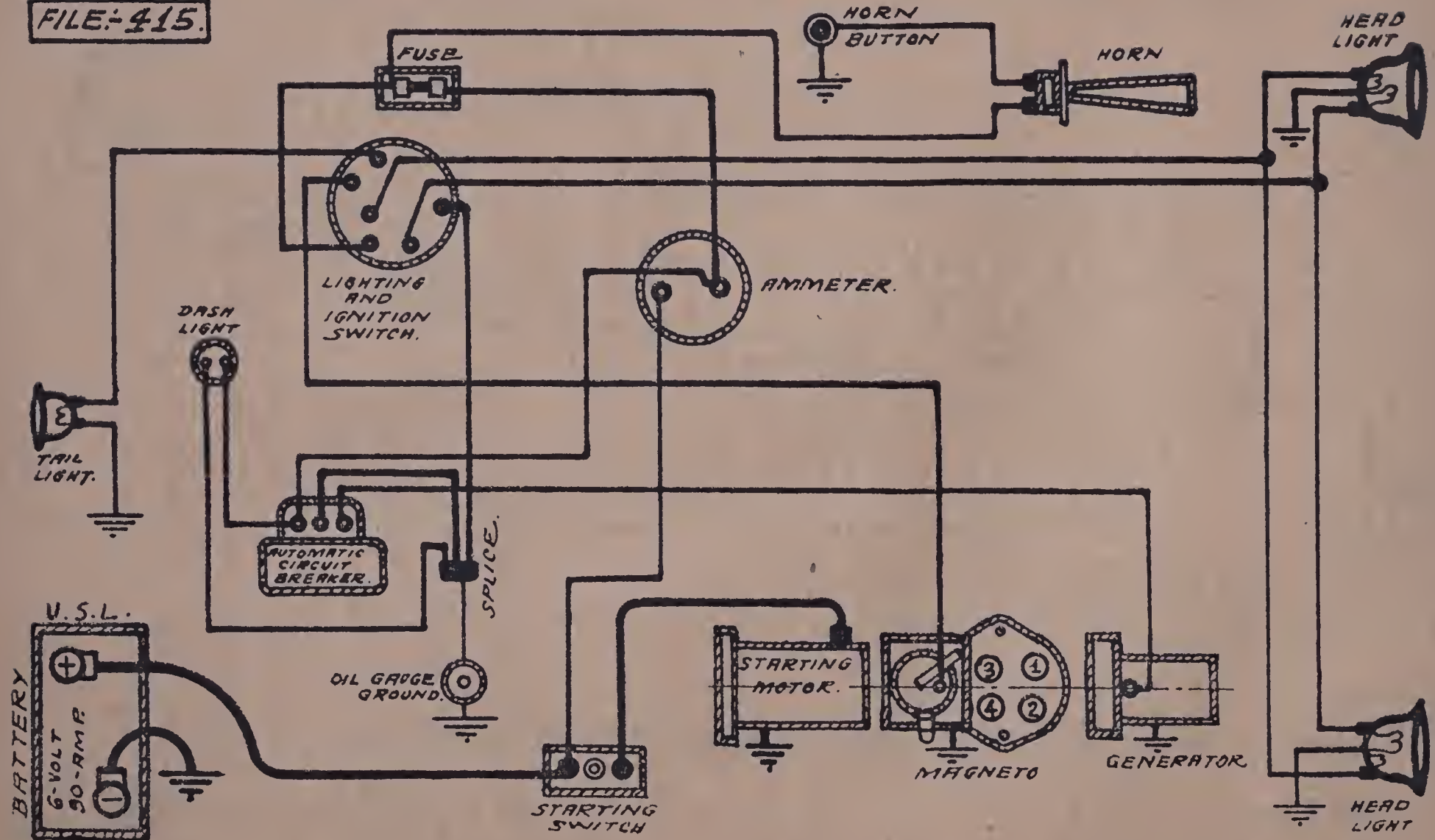
6-VOLT, WESTINGHOUSE SYSTEM.

FILE-372



MODEL - 43.

FILE: 415.

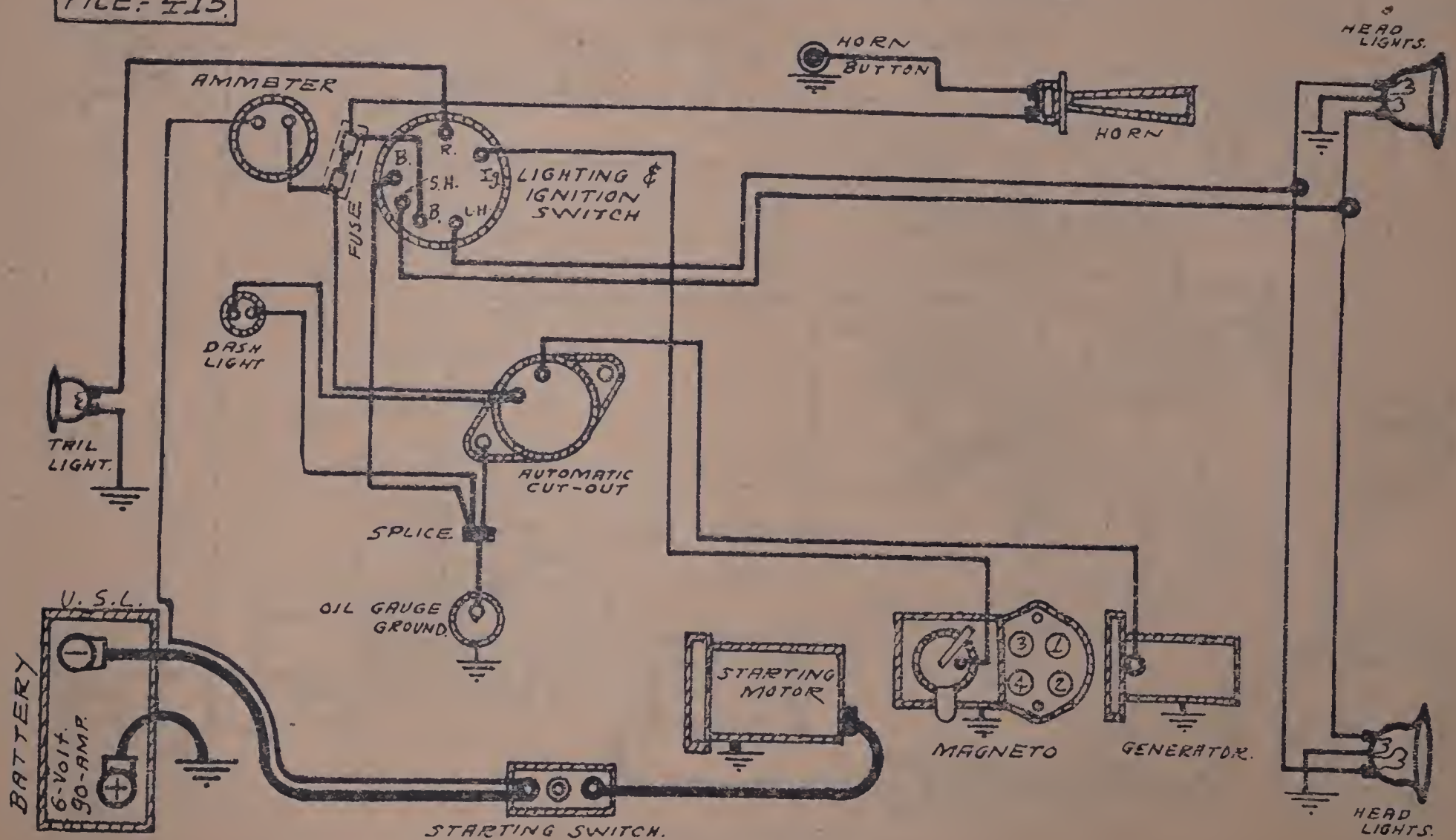


1920-1921

ALLEN

MAGNETO EQUIPPED MODEL-43
6-VOLT, WESTINGHOUSE SYSTEM.

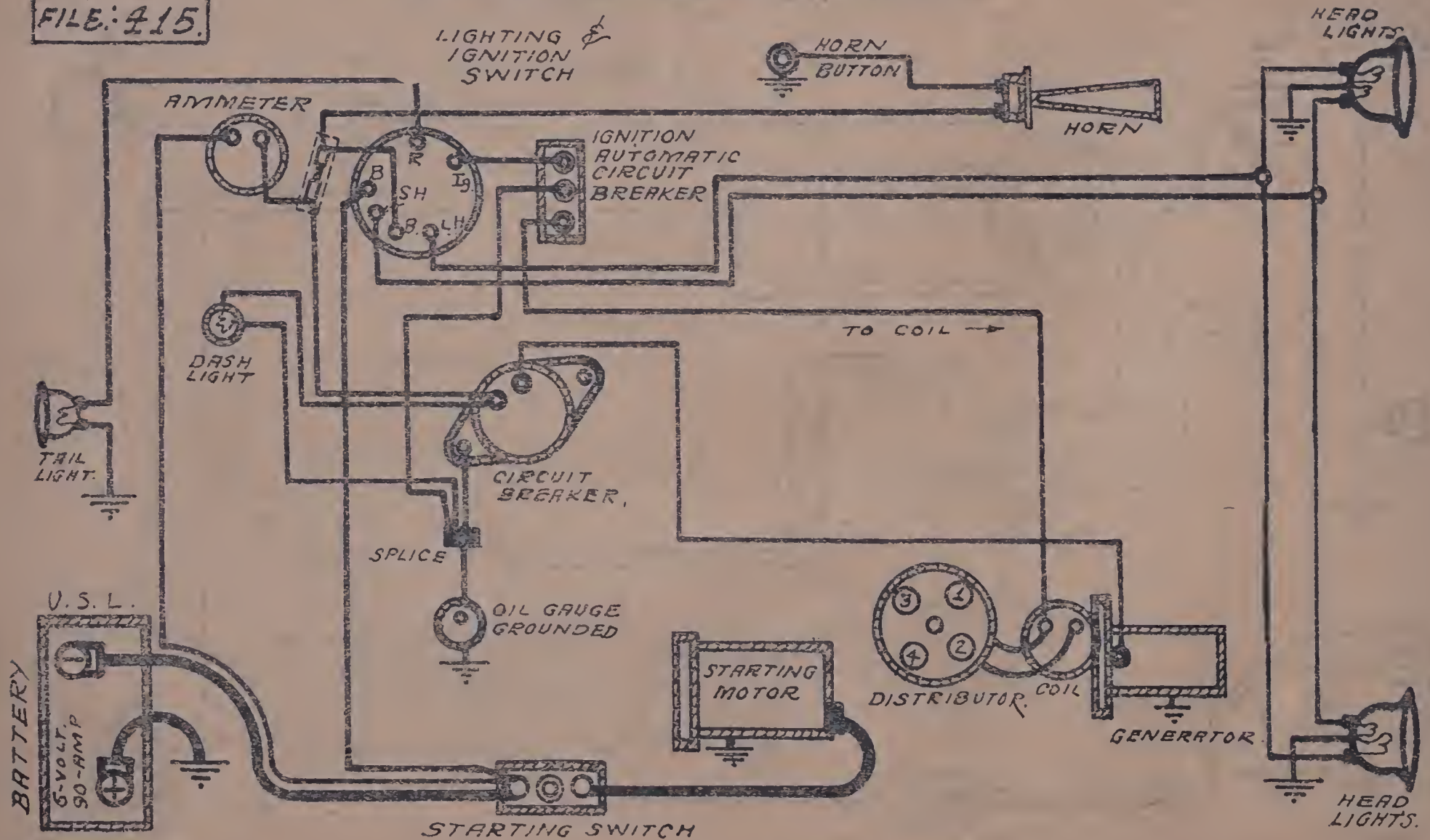
FILE: 415.



ALLEN

1920-1921 — IGNITION COIL EQUIPPED — MODEL -43.
6-VOLT, WESTINGHOUSE SYSTEM.

FILE: 415.



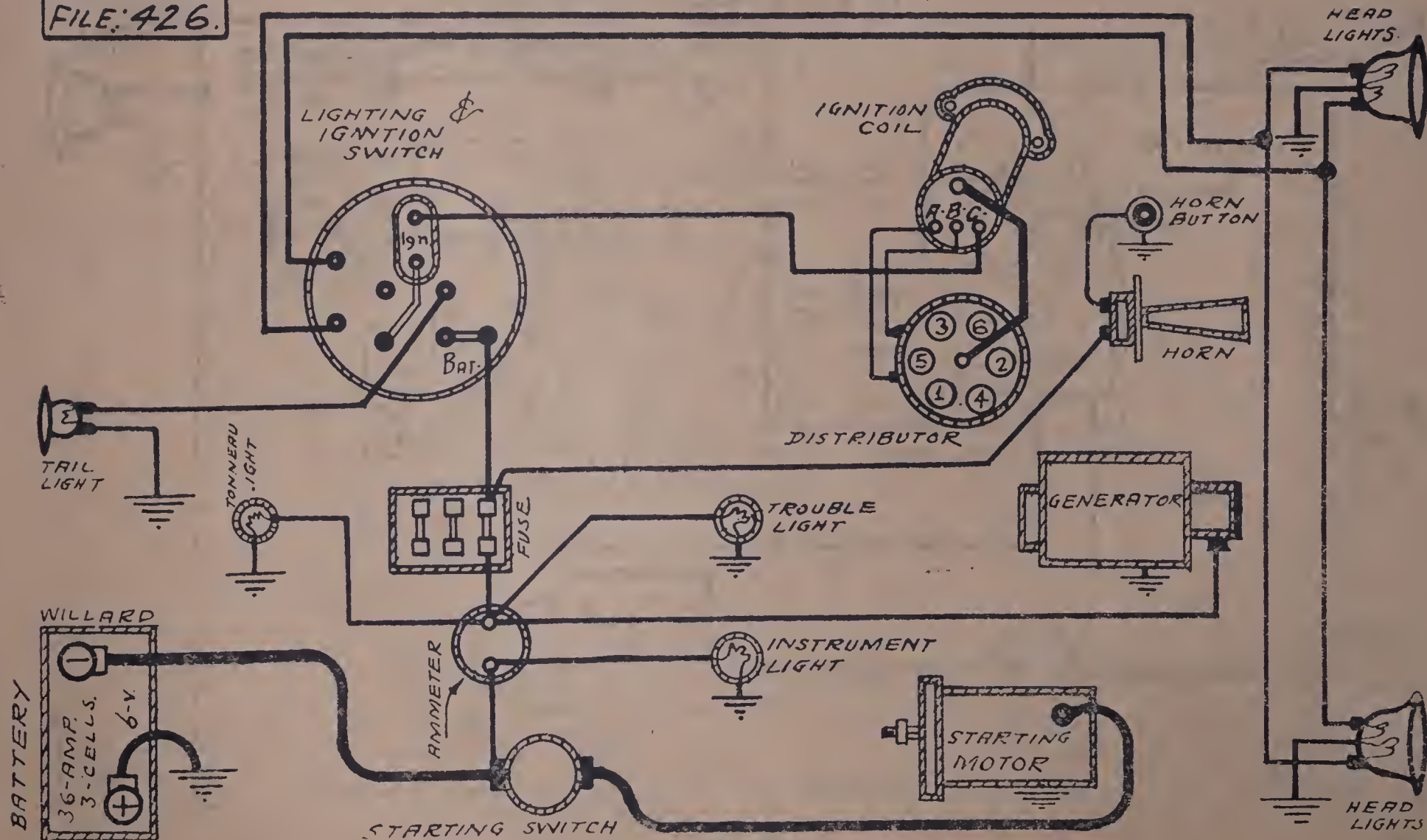
AMERICAN

1920-1921

MODEL 'C'

6-VOLT, GRAY & DAVIS SYSTEM.

FILE: 426.



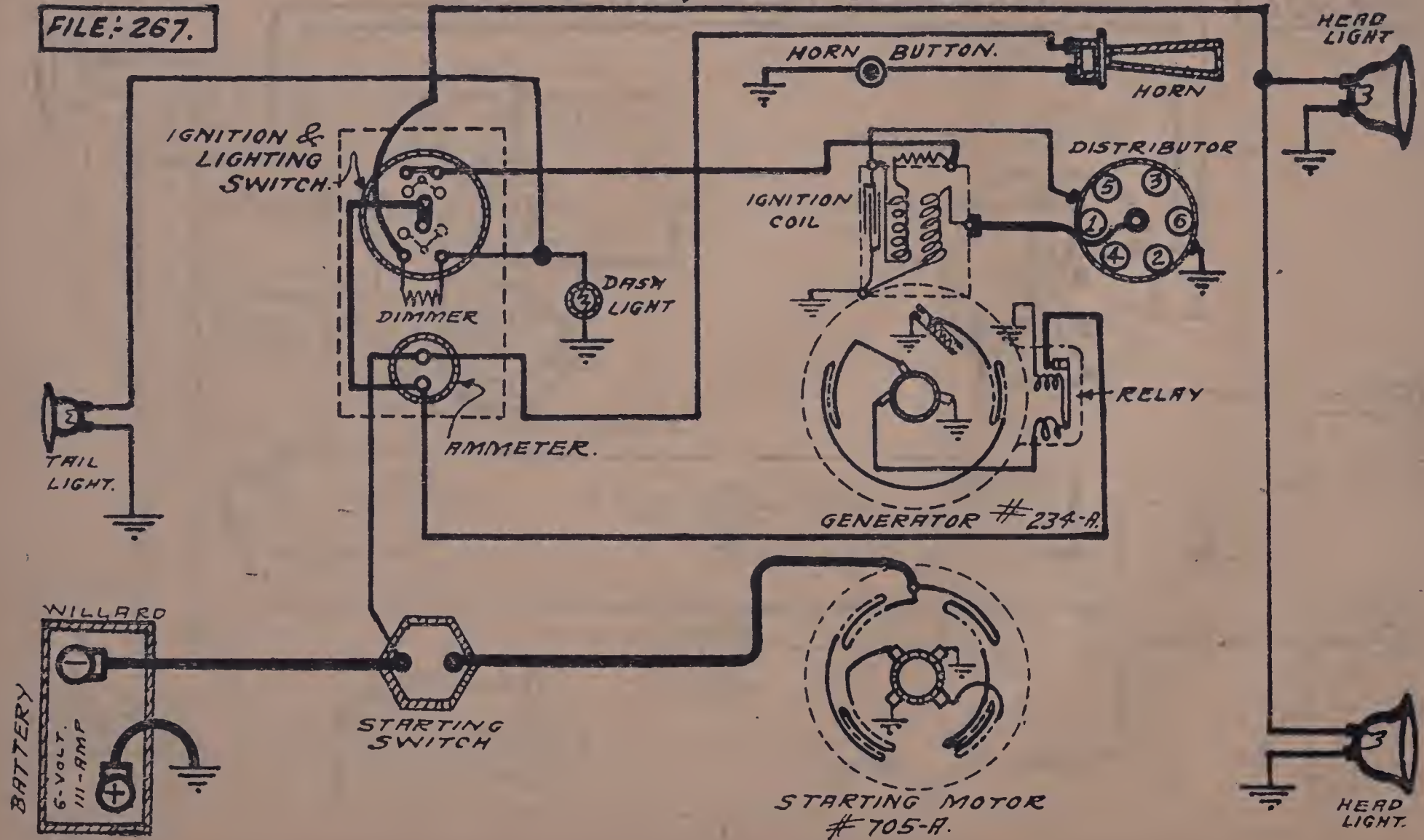
ANDERSON

1920-1921.

MODEL-8, SER.-30-40.

6-VOLT, REMY SYSTEM.

FILE: 267.

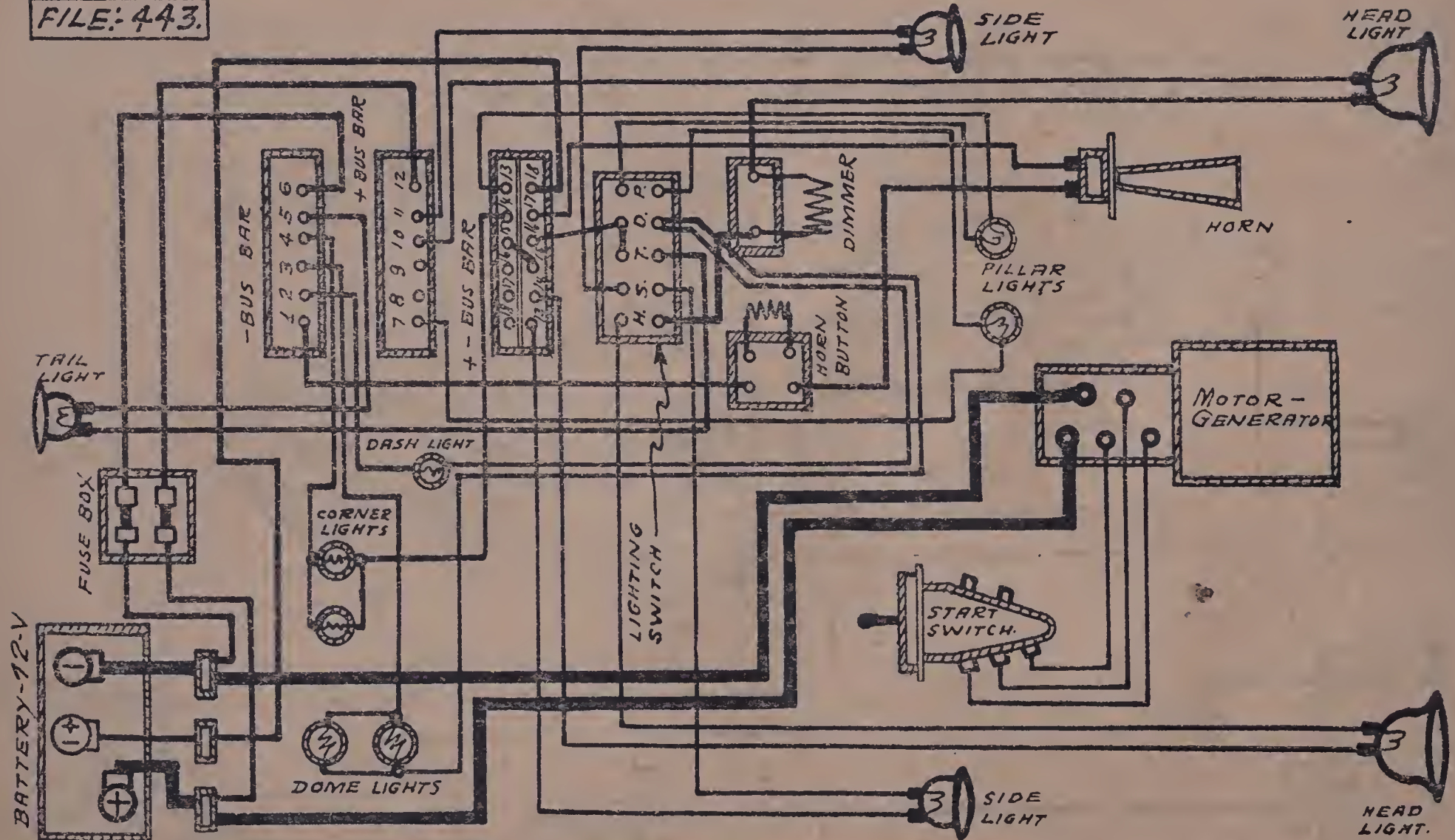


FRANKLIN

1914

SERIES - 4-M, SEDAN.
12-VOLT, DYNETO SYSTEM.

FILE: 443.



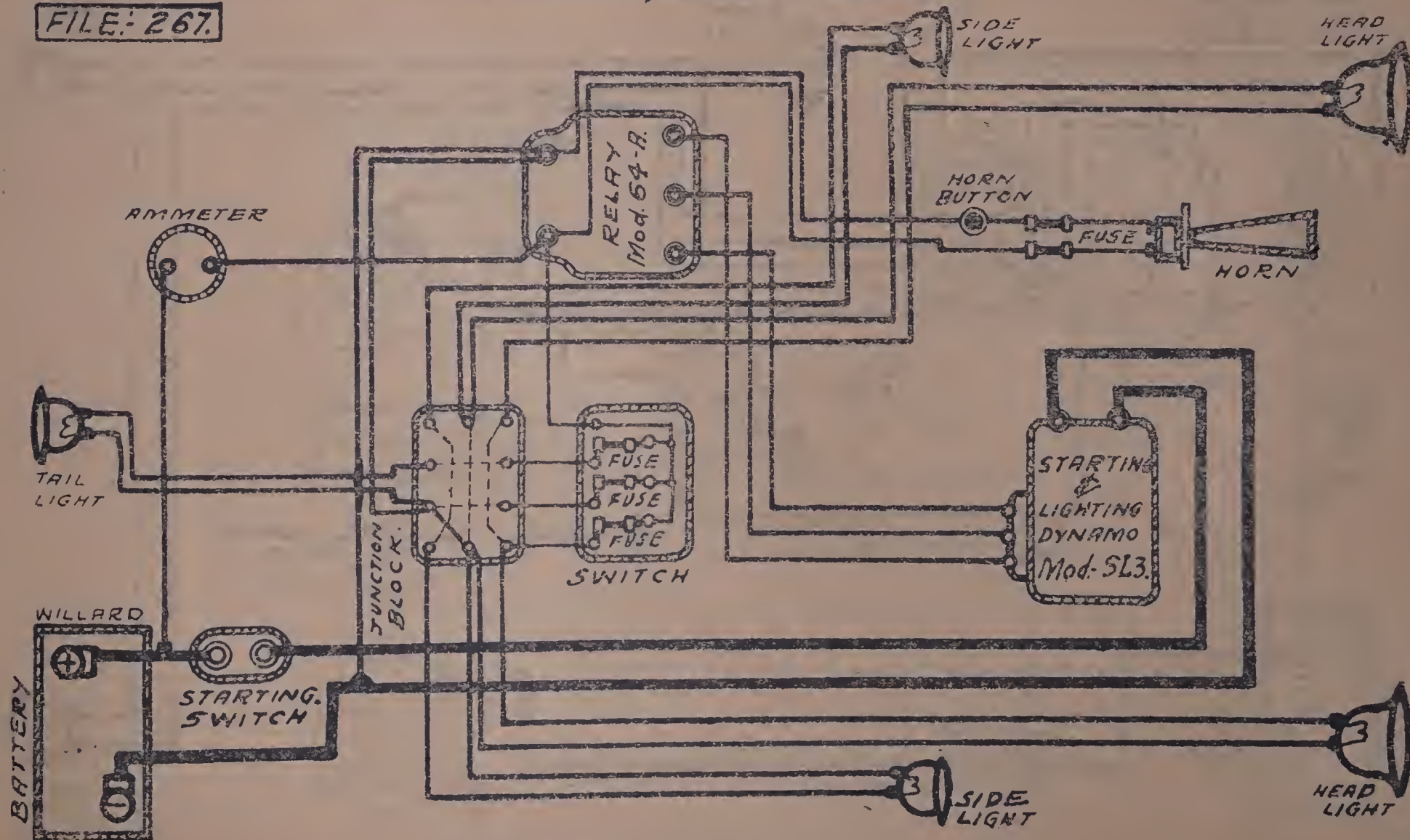
AUBURN.

1913, 1914, 1915.

MODELS 4-40, 4-41, 6-45, 6-46.

6-VOLT, REMY SYSTEM.

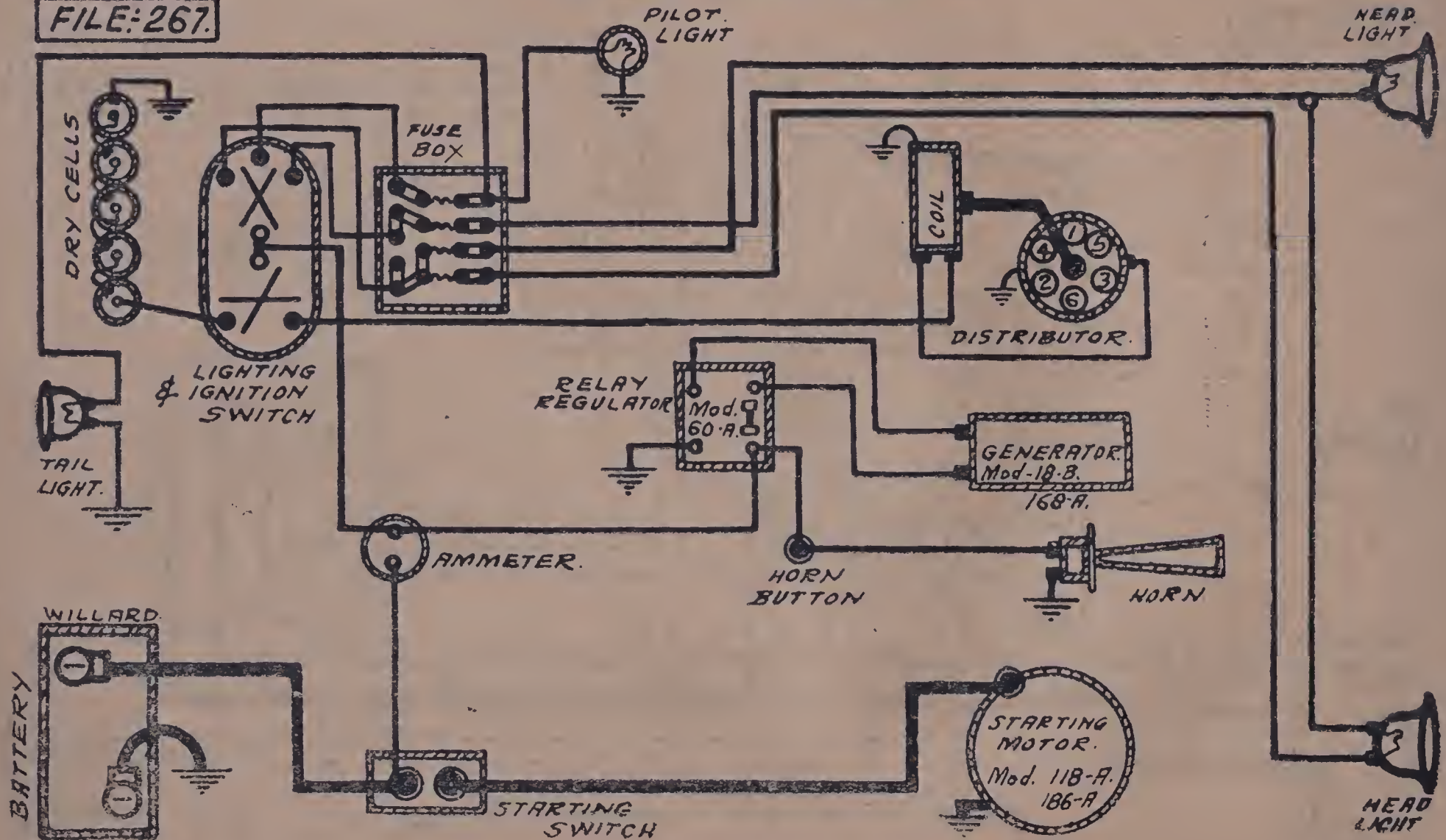
FILE: 267.



AUBURN

1916, 1917, 1918. MODELS, 4-38, 6-38, 6-40.
6-VOLT, REMY SYSTEM.

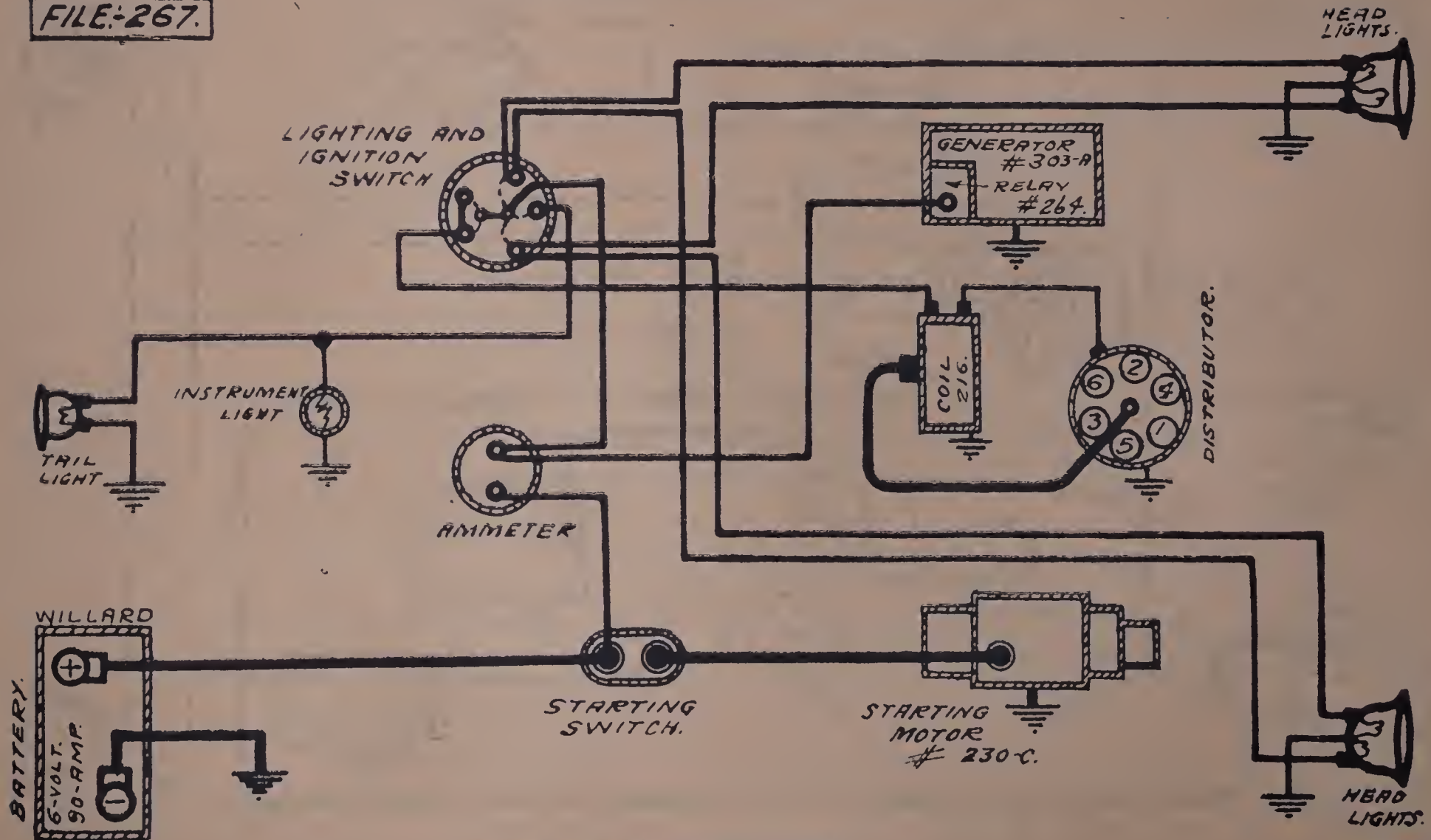
FILE: 267.



AUBURN

1919-1920-1921 ALL MODELS — 6-39
6-VOLT, - REMY SYSTEM.

FILE: 267.

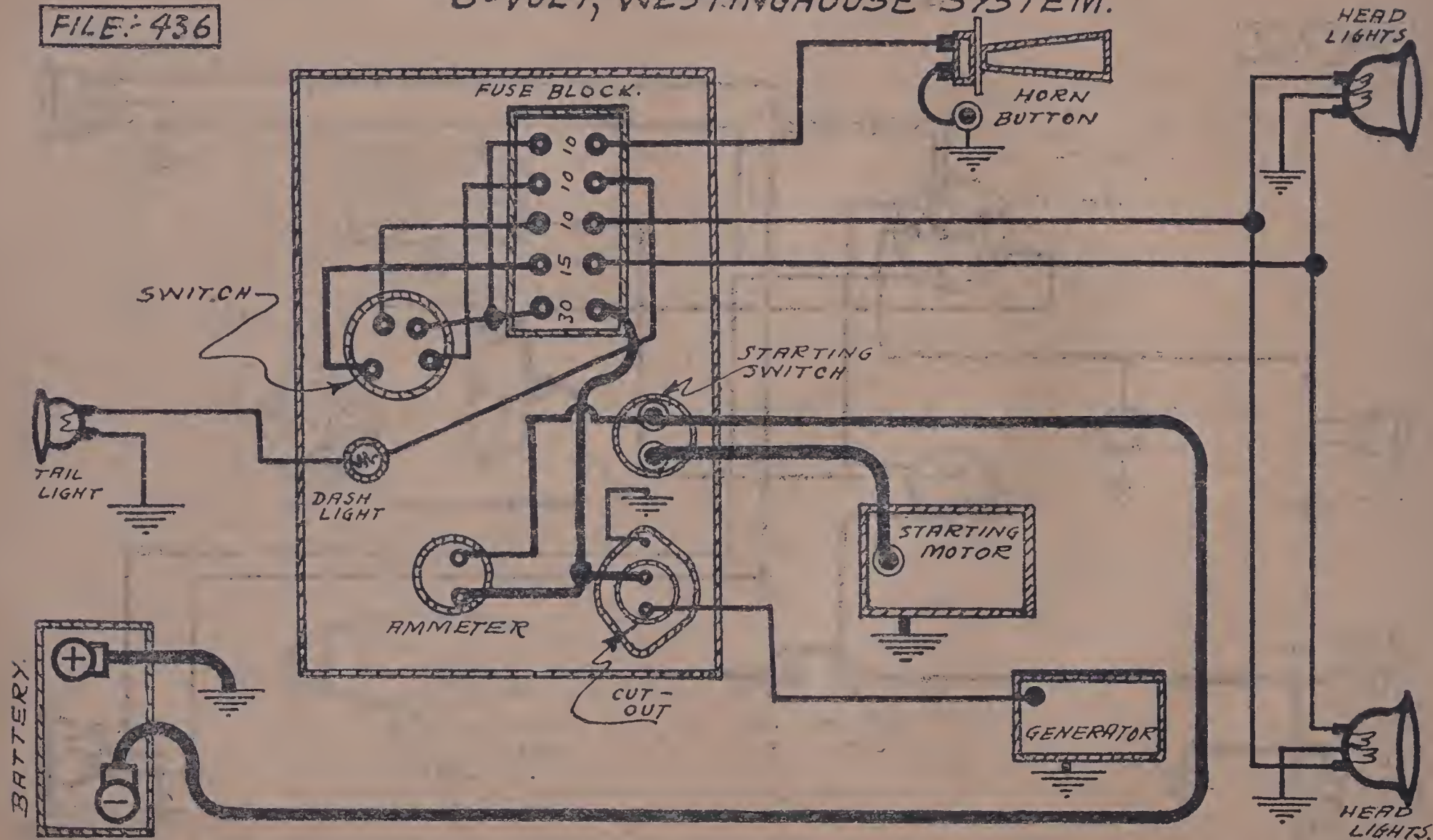


EVERY ONE-TON TRUCK

1920-1921.

6-VOLT, WESTINGHOUSE SYSTEM.

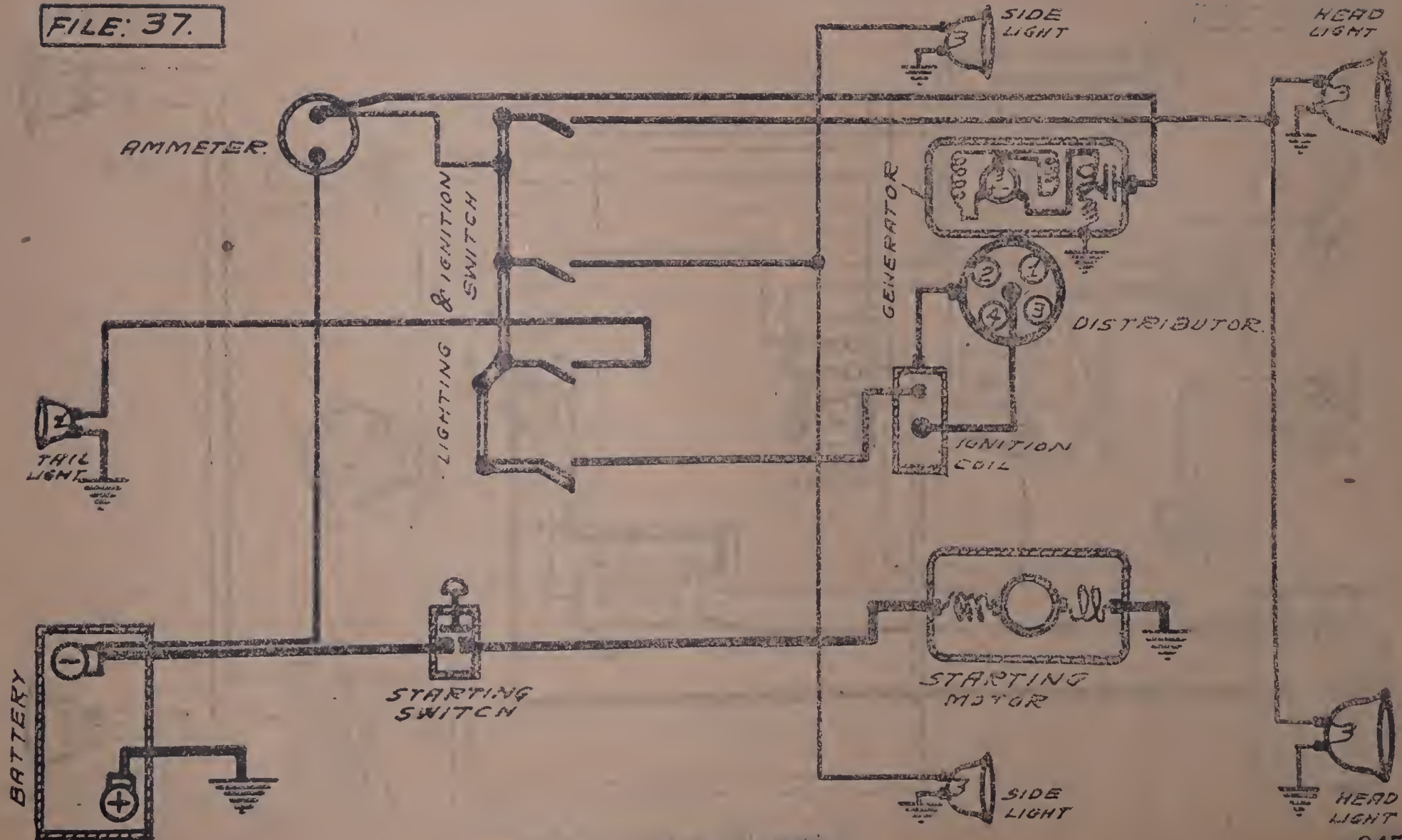
FILE: 436



BETHLEHEM

ALL 1921 TRUCK MODELS.
6-VOLT, -GRAY & DAVIS SYSTEM.

FILE: 37.



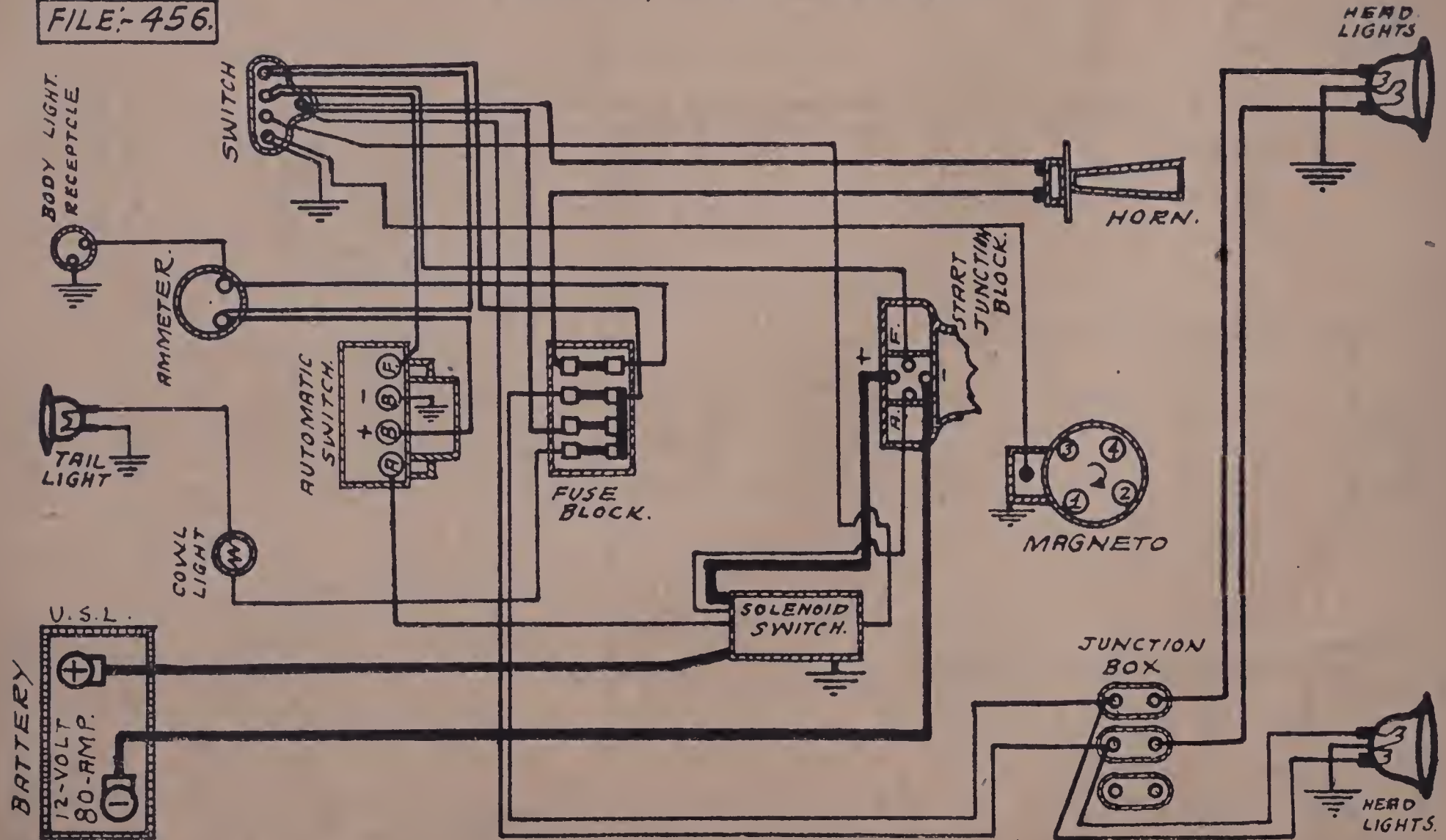
BREWSTER

1920-1921.

91.

12-VOLT, U.S.L. SYSTEM.

FILE: 456.



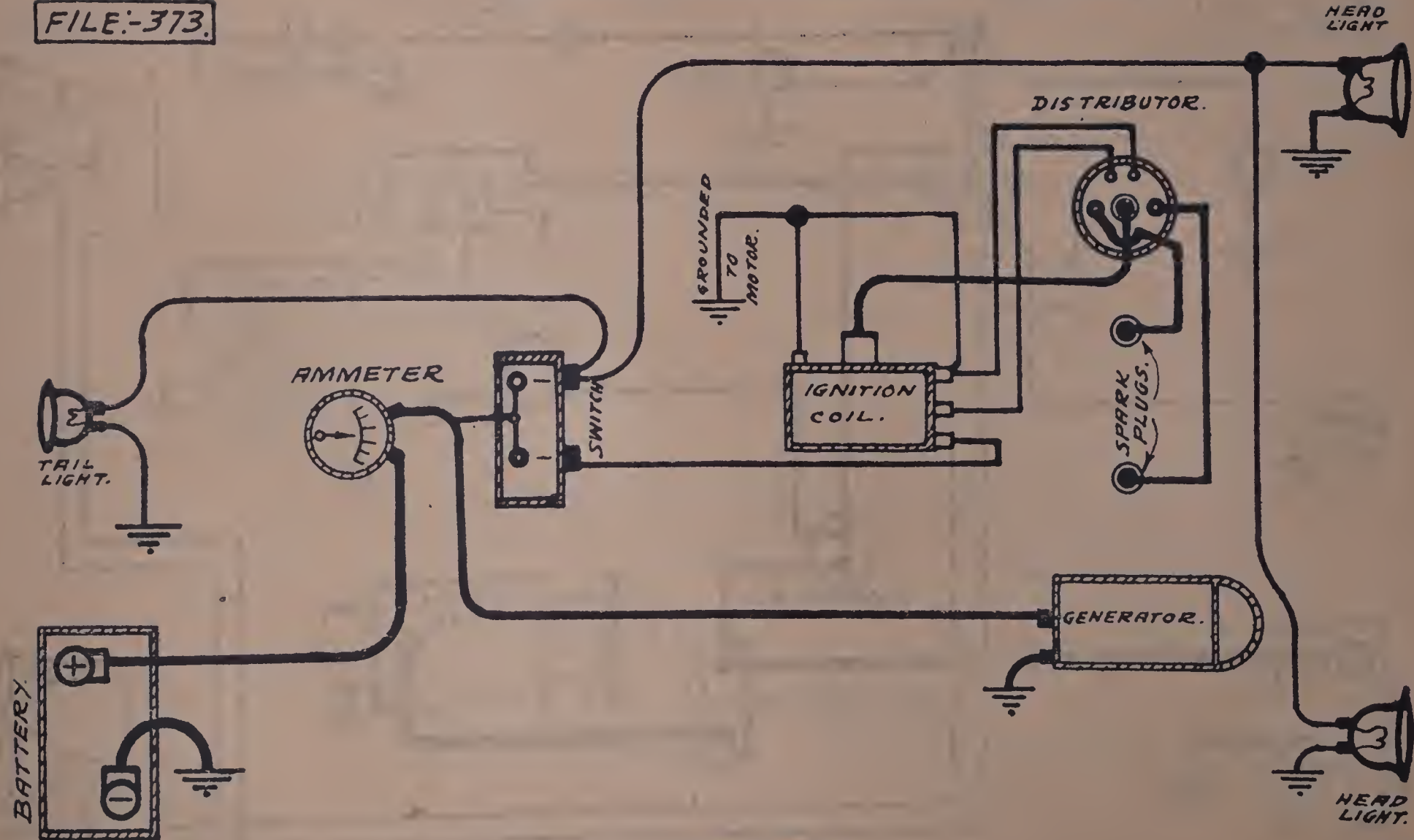
1921

BROOK

MODEL

6-VOLT, ATWATER-KENT SYSTEM.

FILE:-373.



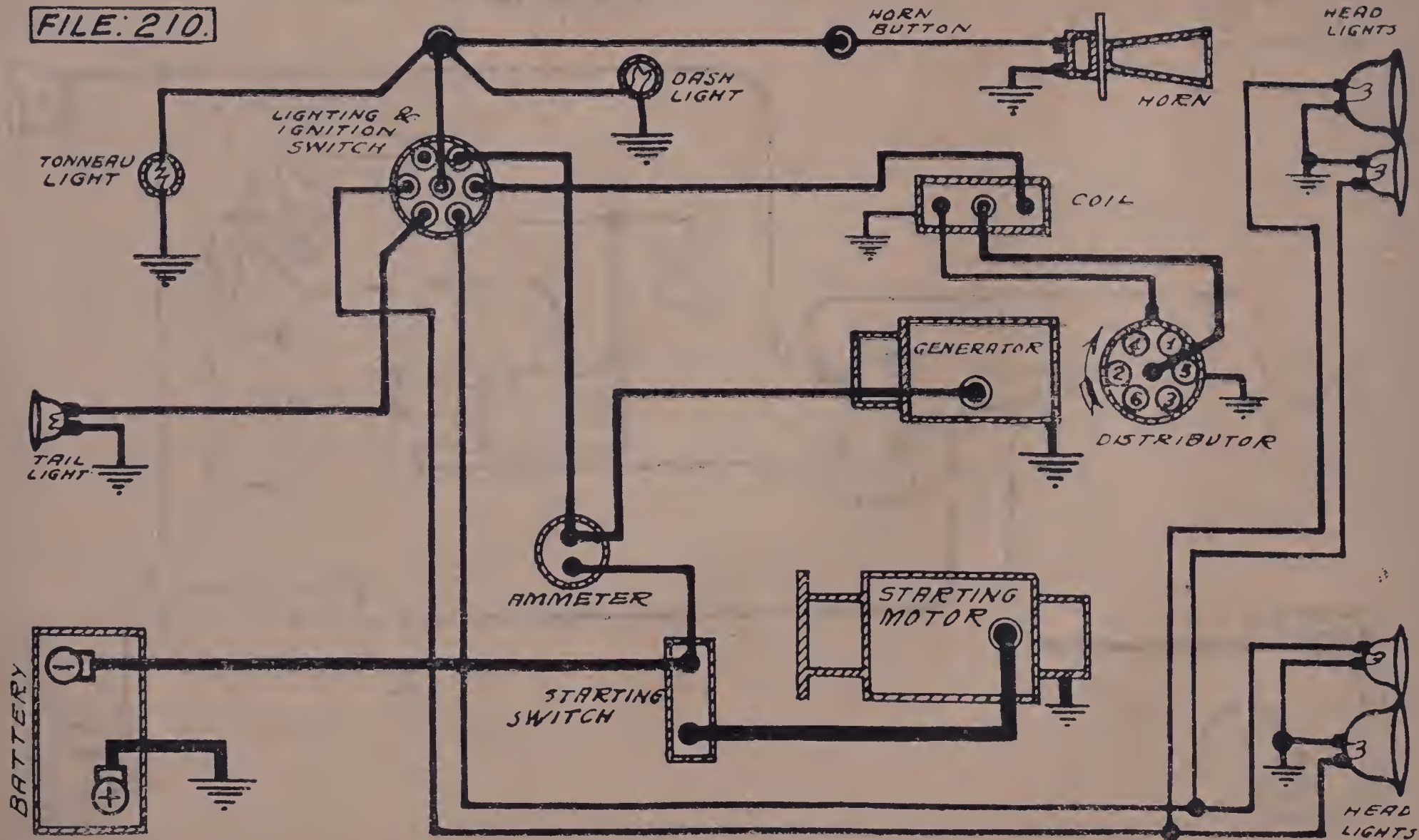
1921

CASE

MODEL-V

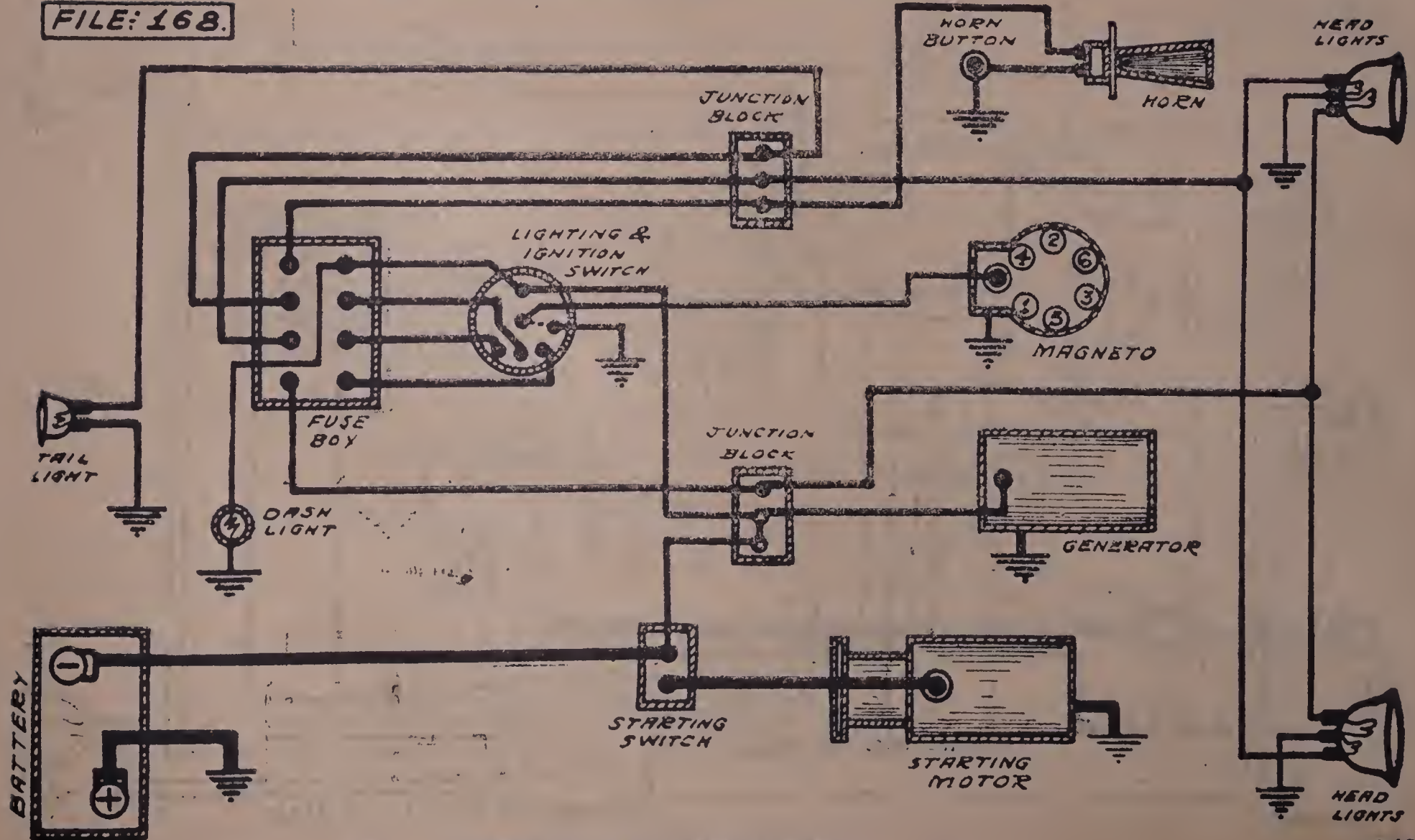
6-VOLT, - WESTINGHOUSE SYSTEM.

FILE: 210.



CHANDLER ALL 1921 MODELS 6-VOLT, GRAY & DAVIS SYSTEM.

FILE: 168.



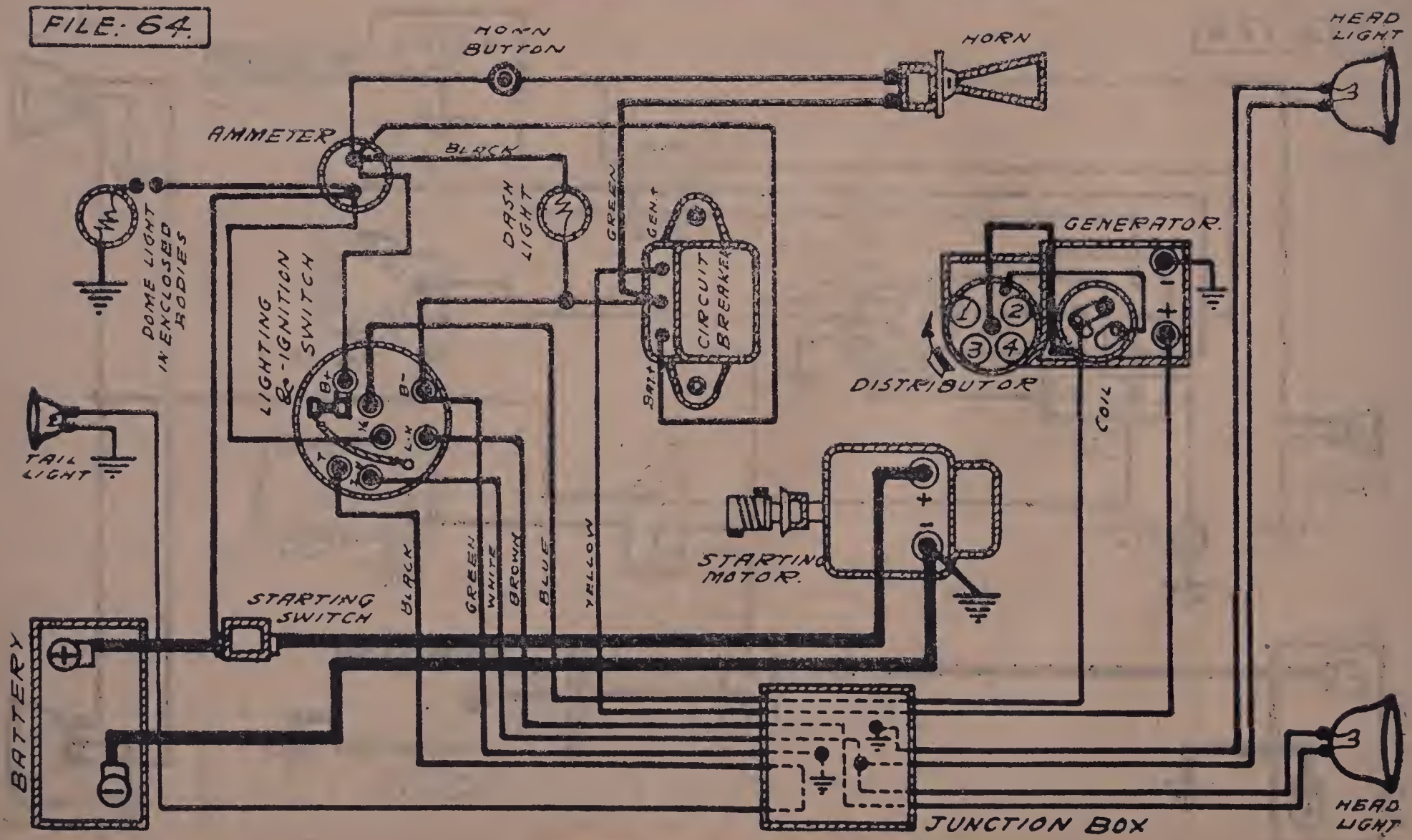
1921

CHEVROLET

MODEL - F.B.

6-VOLT. AUTOLITE SYSTEM.

FILE: 64.



CHEVROLET

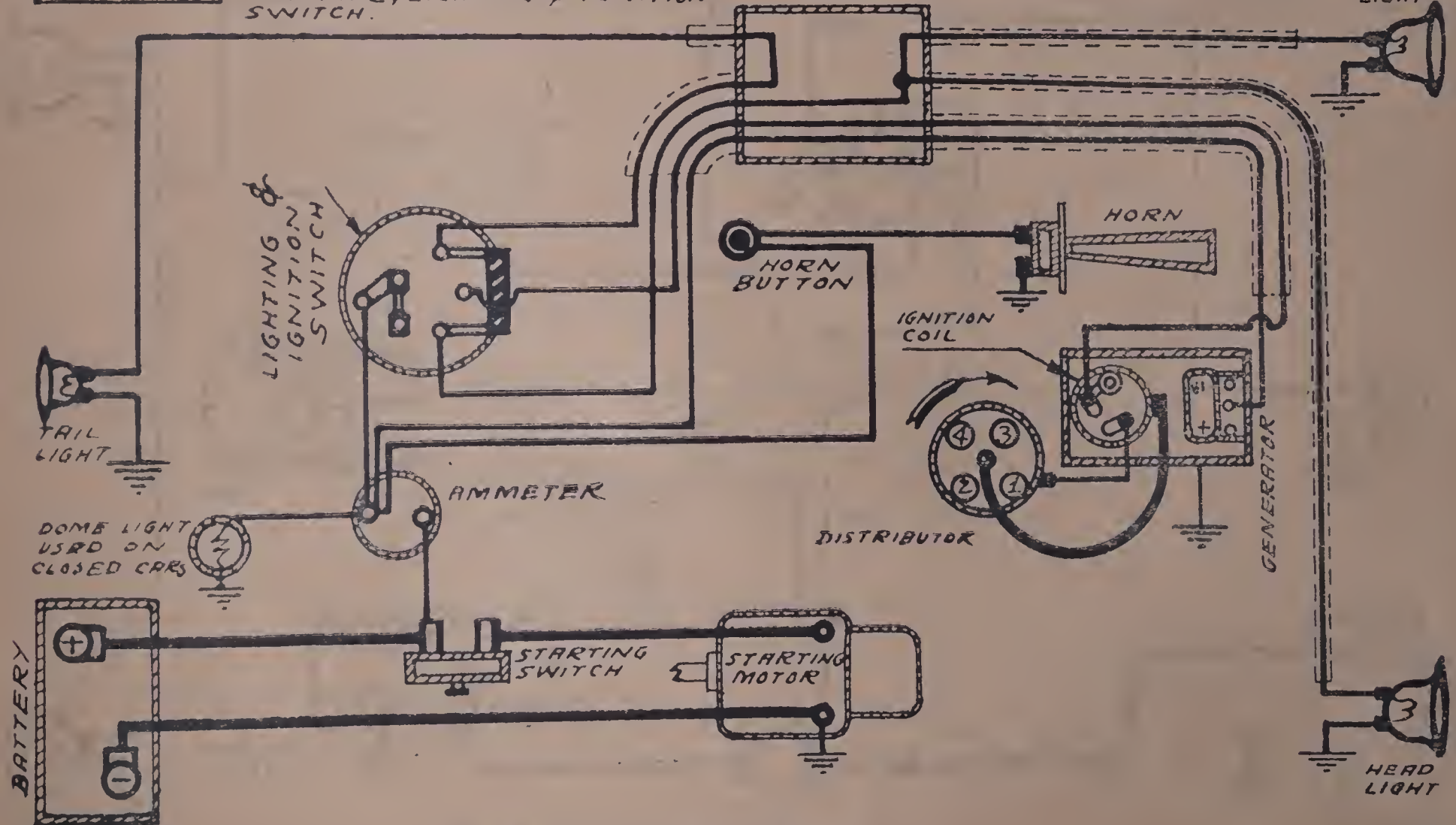
1920-1921 MODEL - 490.
6-VOLT, AUTOLITE SYSTEM.

FILE: 424.

USING REMY DISTRIBUTOR, WITH
KEY TYPE, LIGHTING & IGNITION
SWITCH.

JUNCTION
BLOCK

HEAD
LIGHT

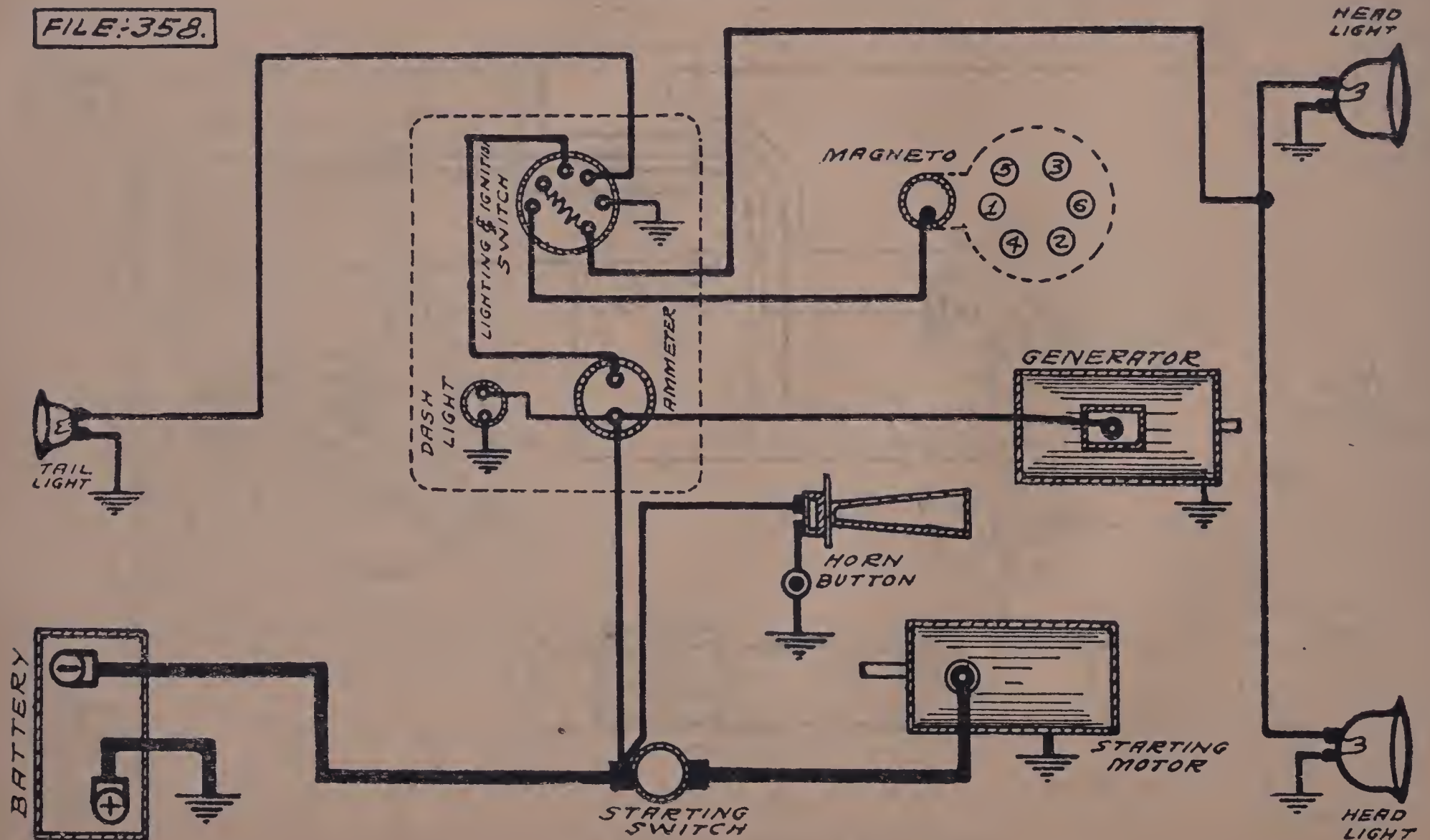


1921

CLEVELAND

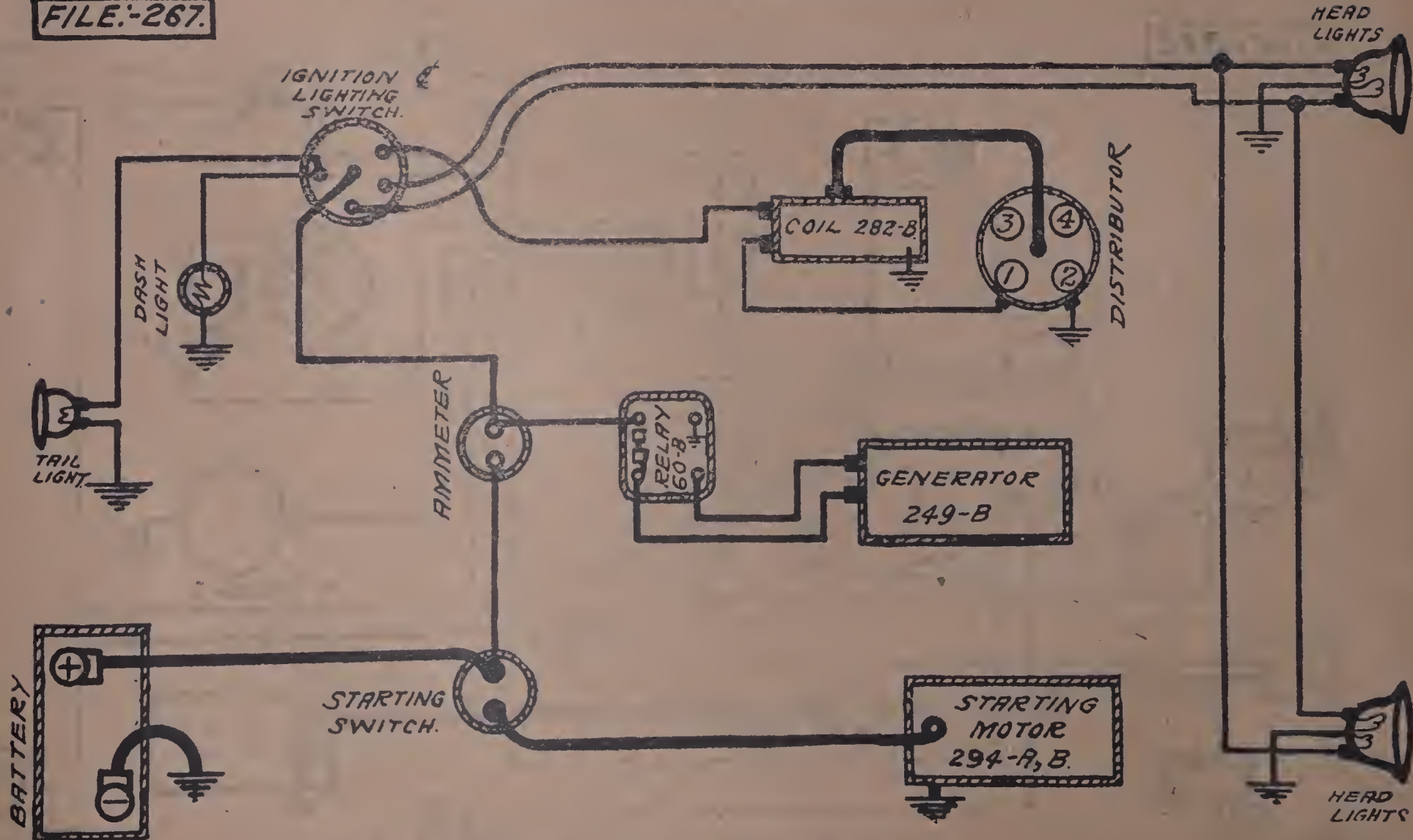
MODEL - 41.
6-VOLT, GRAY & DAVIS SYSTEM.

FILE: 358.



COMMERCE TRUCK. MODEL-E 6-VOLT, -REMY SYSTEM.

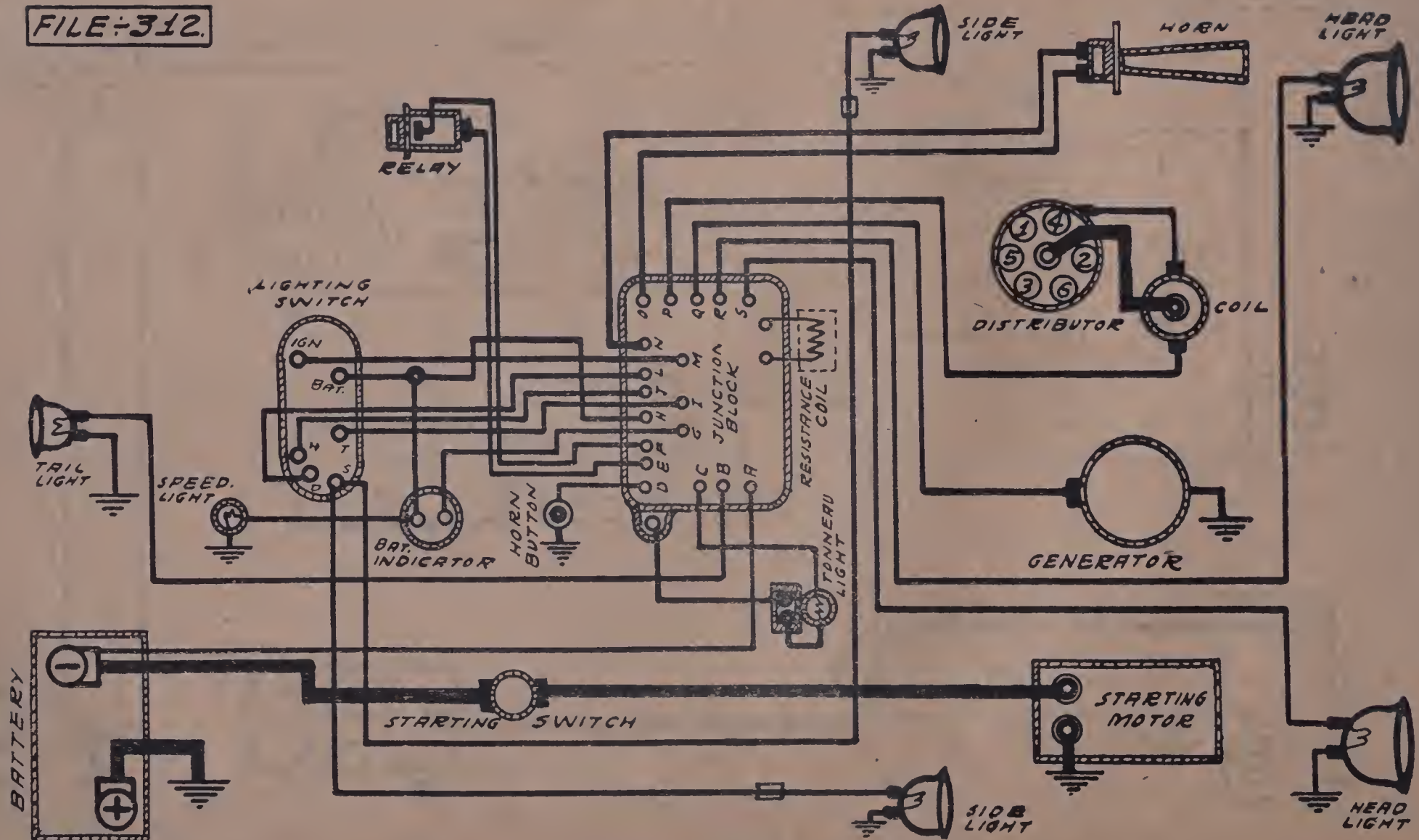
FILE:-267.



1921

STUDEBAKER. SIX 6-VOLT, WAGNER SYSTEM.

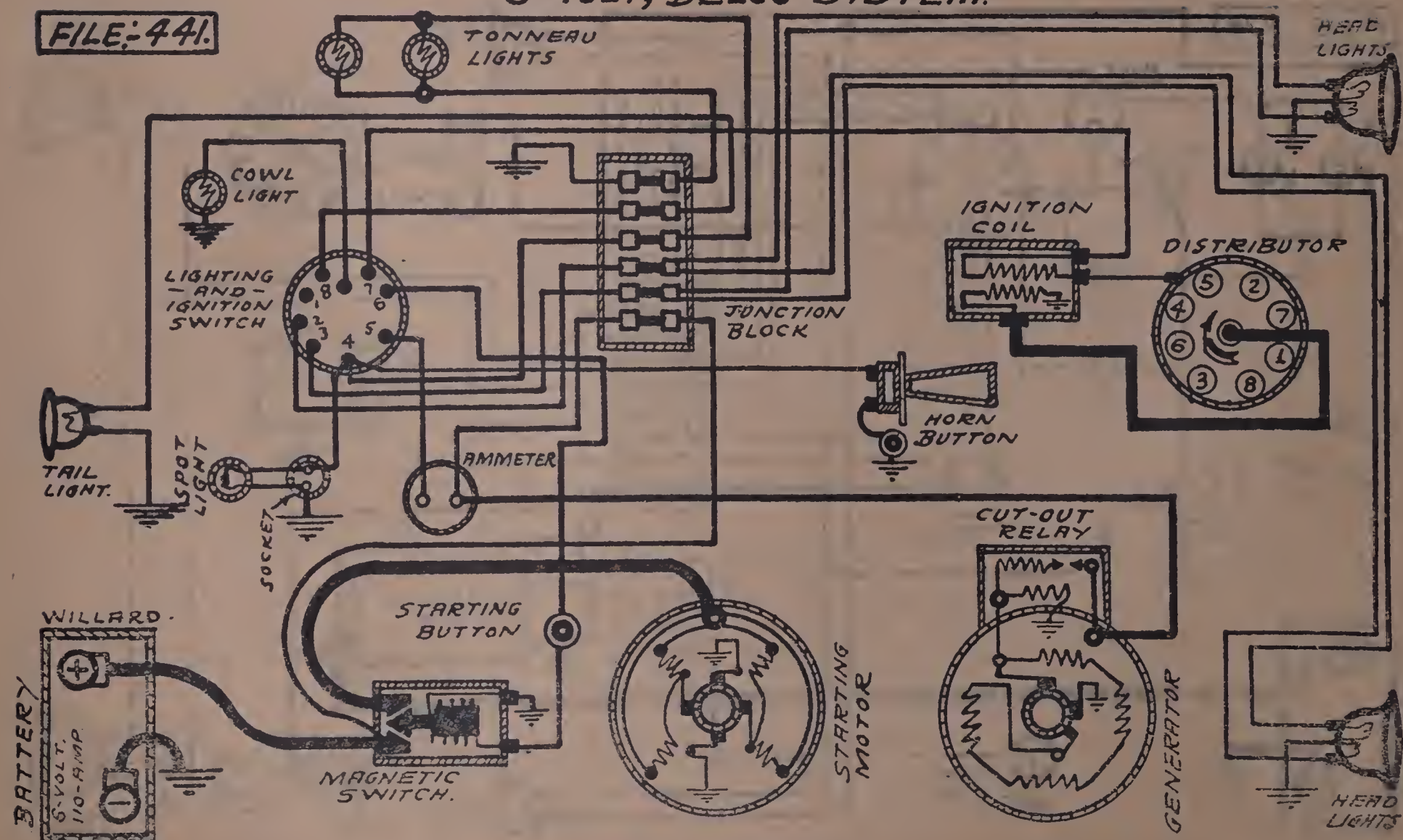
FILE-312.



CUNNINGHAM

1920-1921 V-4TH SERIES
6-VOLT, DELCO SYSTEM.

FILE: 441.

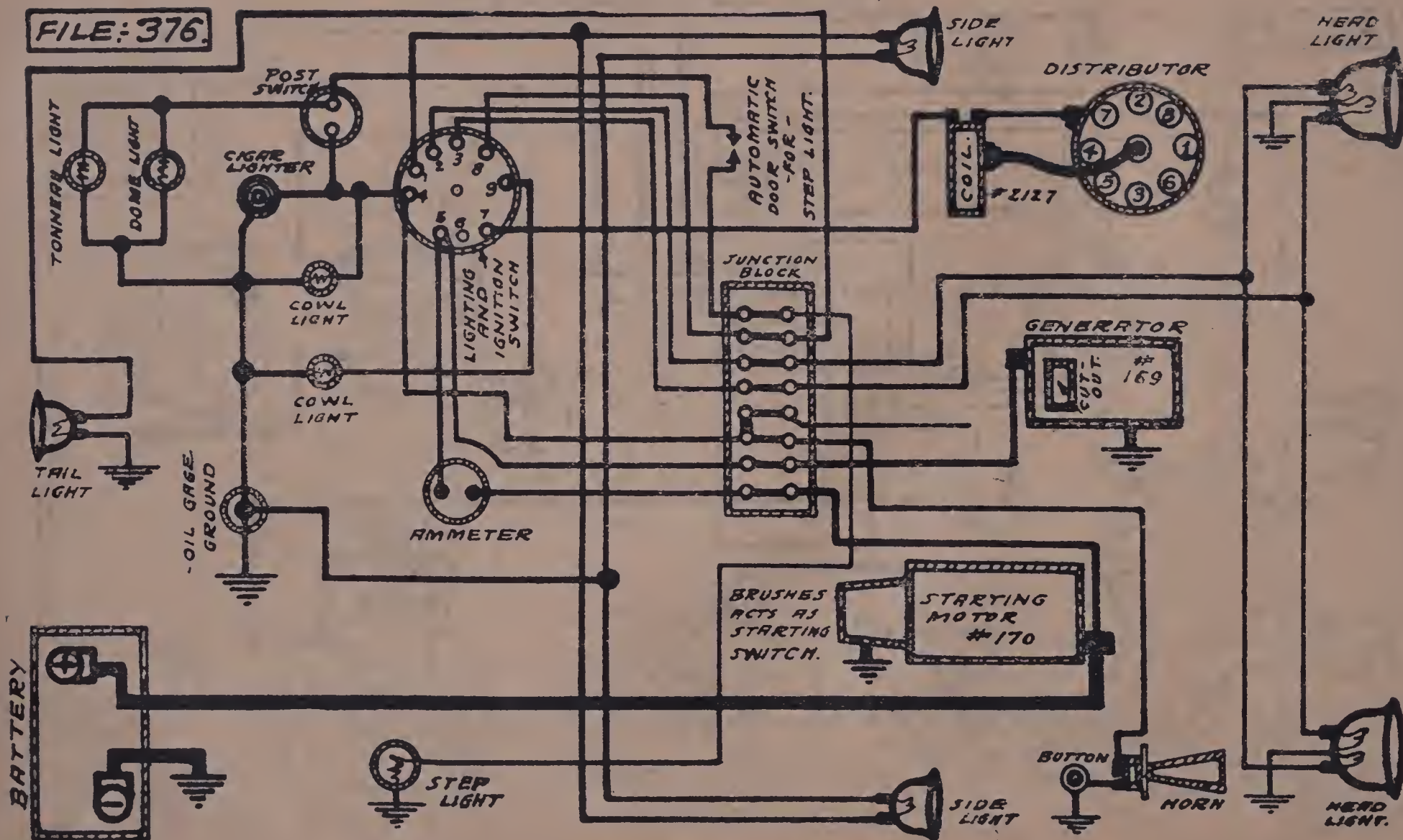


1921

DANIELS

MODEL D-19.

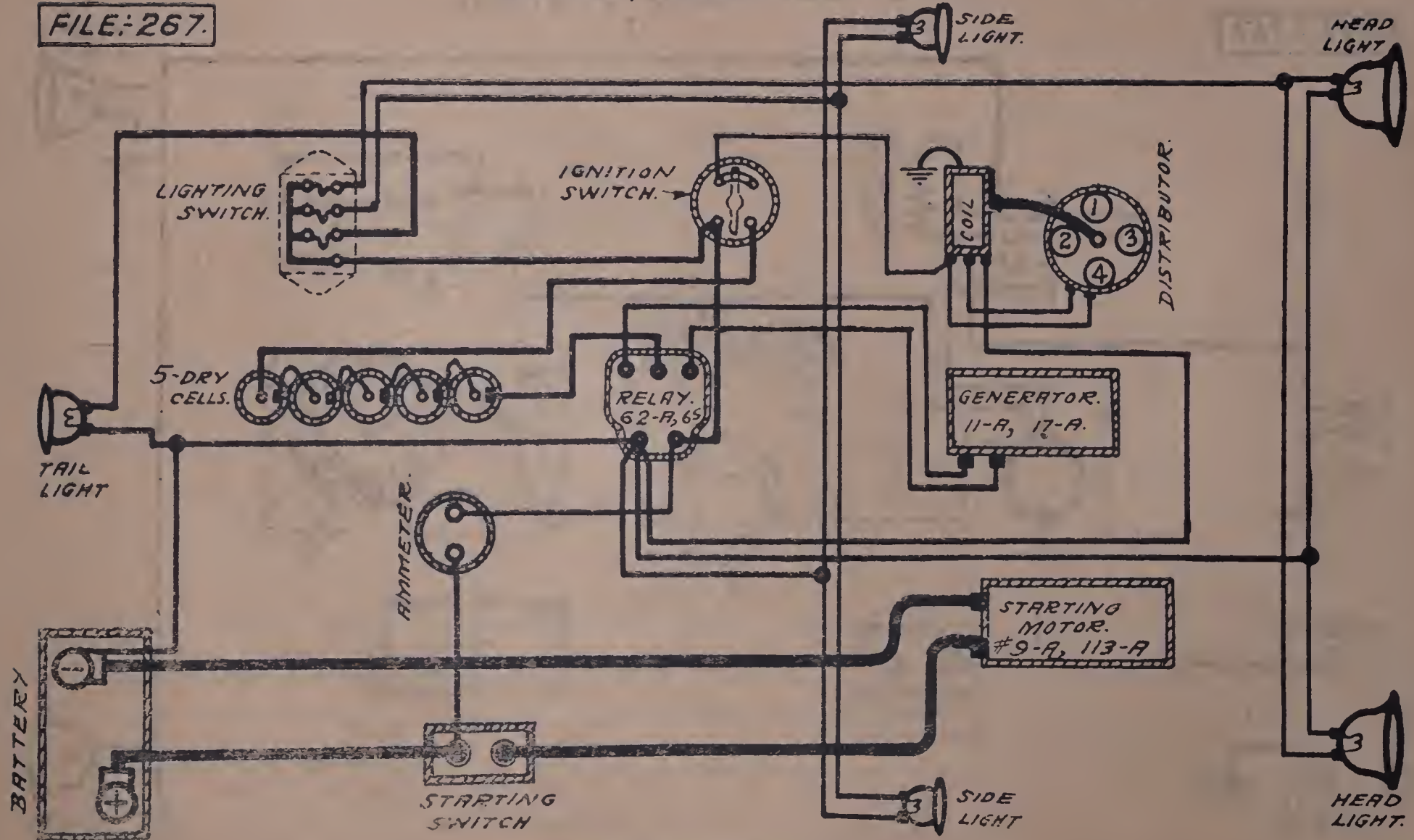
6-VOLT, DELCO SYSTEM.



DETROITER

1915-1916. FOUR CYLINDER.
6-VOLT, REMY SYSTEM.

FILE: 267.



DETROITER.
8-CYLINDER.
6-VOLT, REMY SYSTEM.

The diagram illustrates the electrical system of an automobile, showing the following components and their connections:

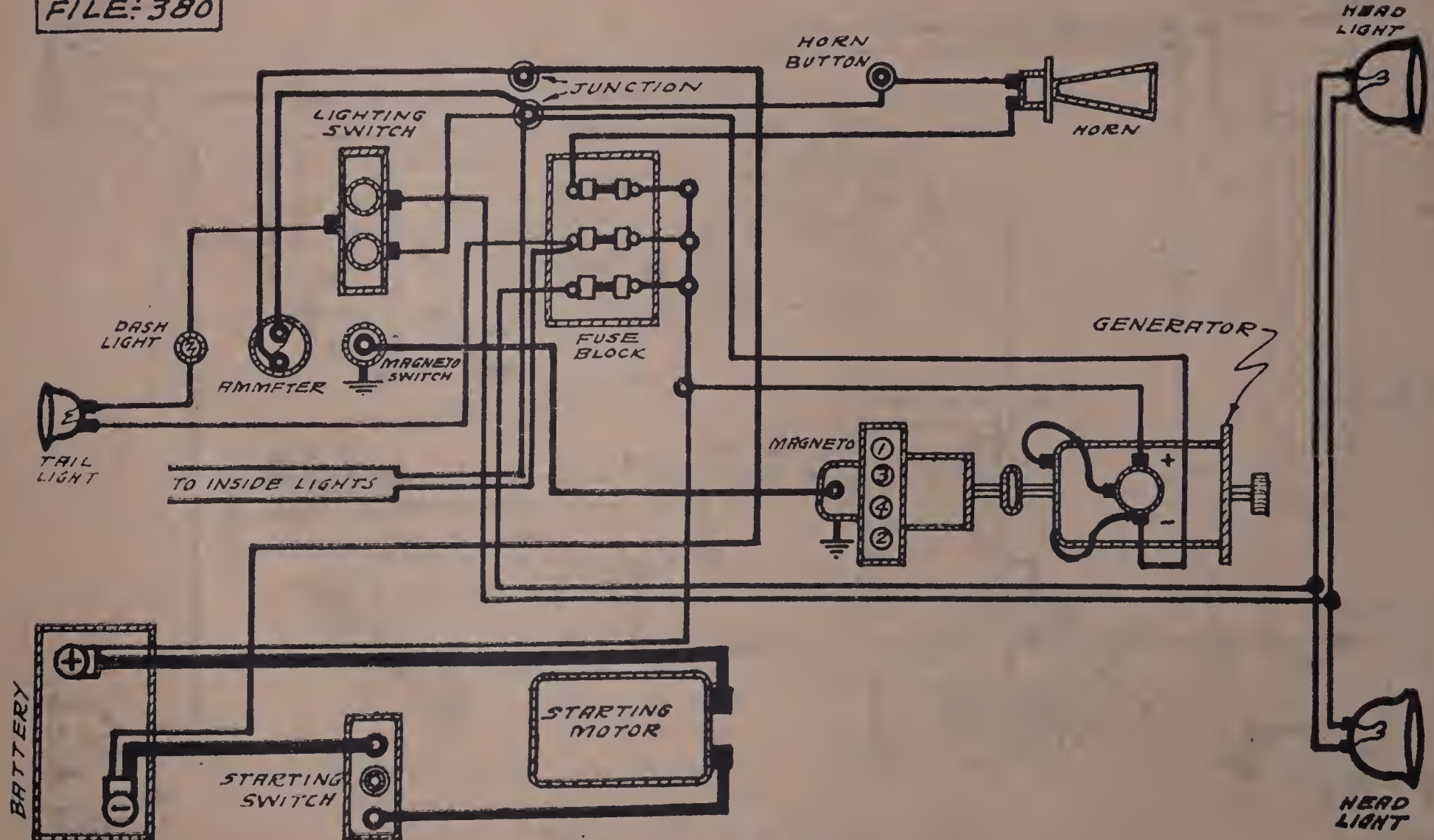
- Battery:** Represented by a series of cells at the top.
- Lighting Switch:** Controls the flow of current to the head and tail lights.
- Dimming Resistance:** A variable resistor used to control the brightness of the head light.
- Generator 182-A:** A device that generates electricity to charge the battery and power the system.
- Relay 60-A:** An electromagnetic switch that controls the starting motor.
- Coil -173:** The primary coil of the ignition system.
- Distributor:** A device that distributes the high-voltage current from the coil to the spark plugs.
- Ignition Switch:** Controls the flow of current to the ignition system.
- Starting Motor-16-A:** A motor used to start the engine.
- Ammeter:** A device that measures the current flowing in the circuit.
- Head Light:** The main light source for the vehicle.
- Tail Light:** A smaller light source at the rear of the vehicle.

DIXIE FLIER

1921 - MODELS.

6-VOLT, DYNETO SYSTEM.

FILE: 380

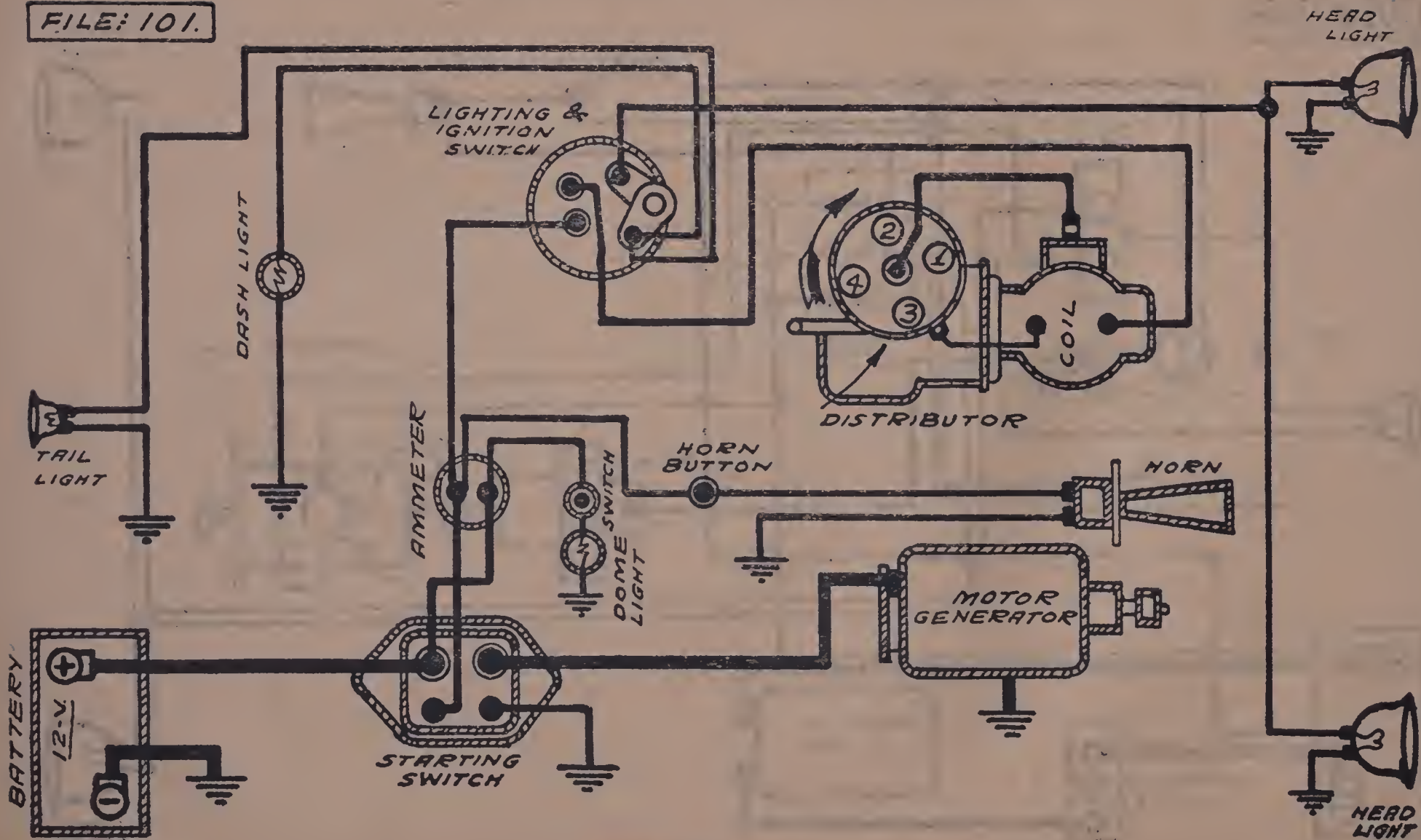


DODGE

1921 — MODELS

12-VOLT, NORTH EAST SYSTEM

FILE: 101.

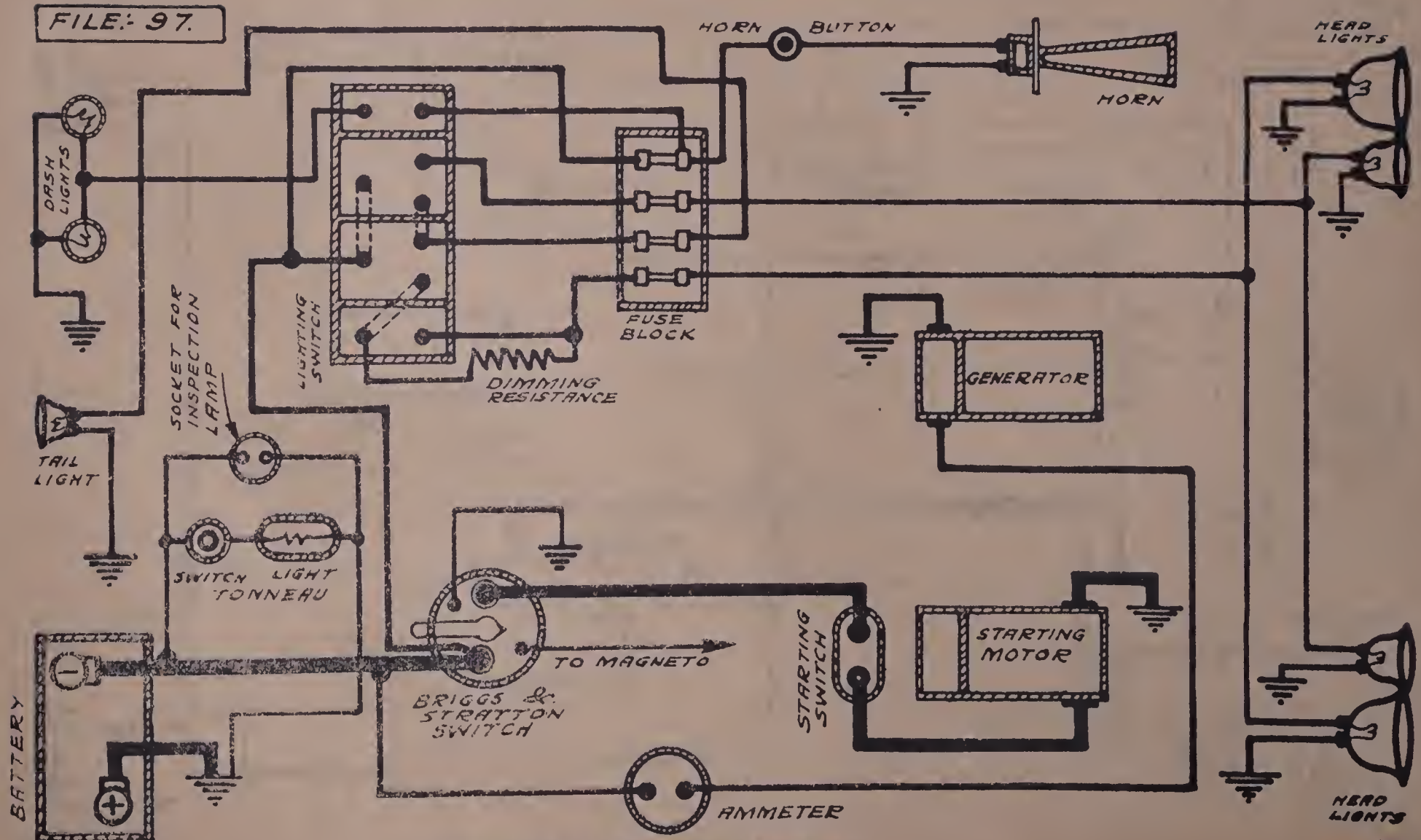


1921

DORRIS

MODEL 6-80.

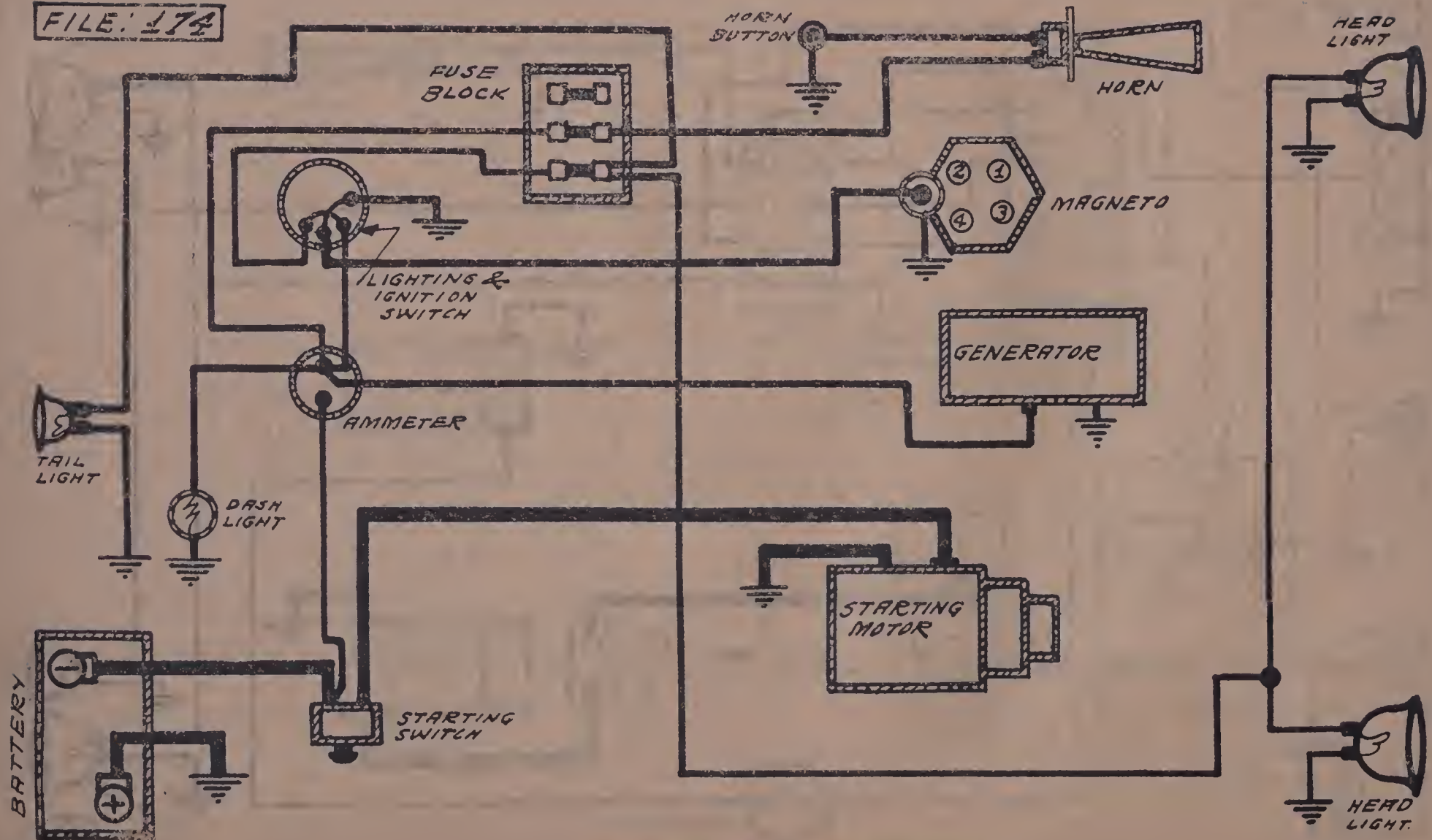
6-VOLT, WESTINGHOUSE SYSTEM.



DORT

1920-1921 39, 39L, EXPORT.
6-VOLT, WESTINGHOUSE SYSTEM.

FILE: 174

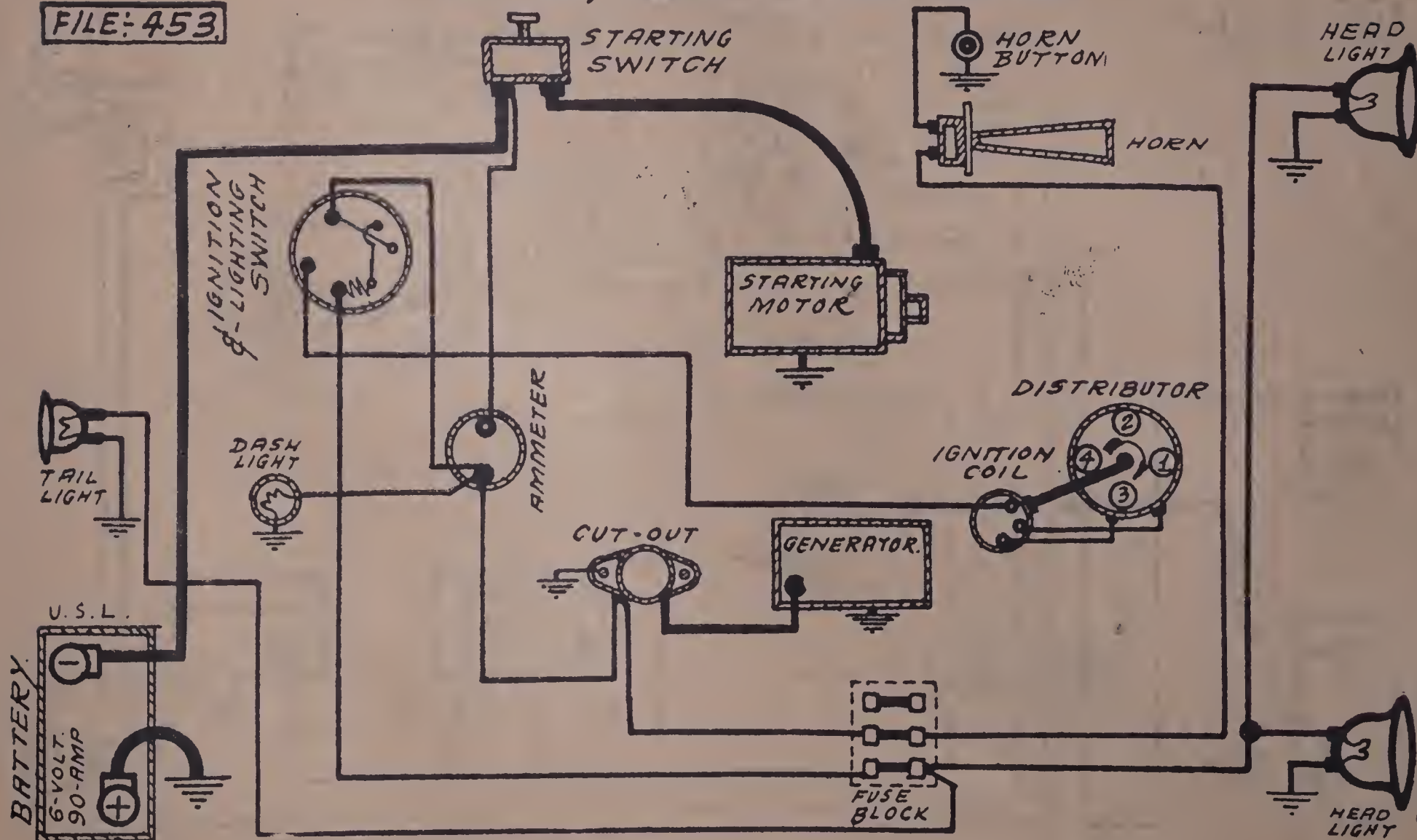


1921

DORT

MODELS, 10, 12-A, 12-AC, 15, 17-A, 17-AC.
6-VOLT, WESTINGHOUSE SYSTEM.

FILE: 453.



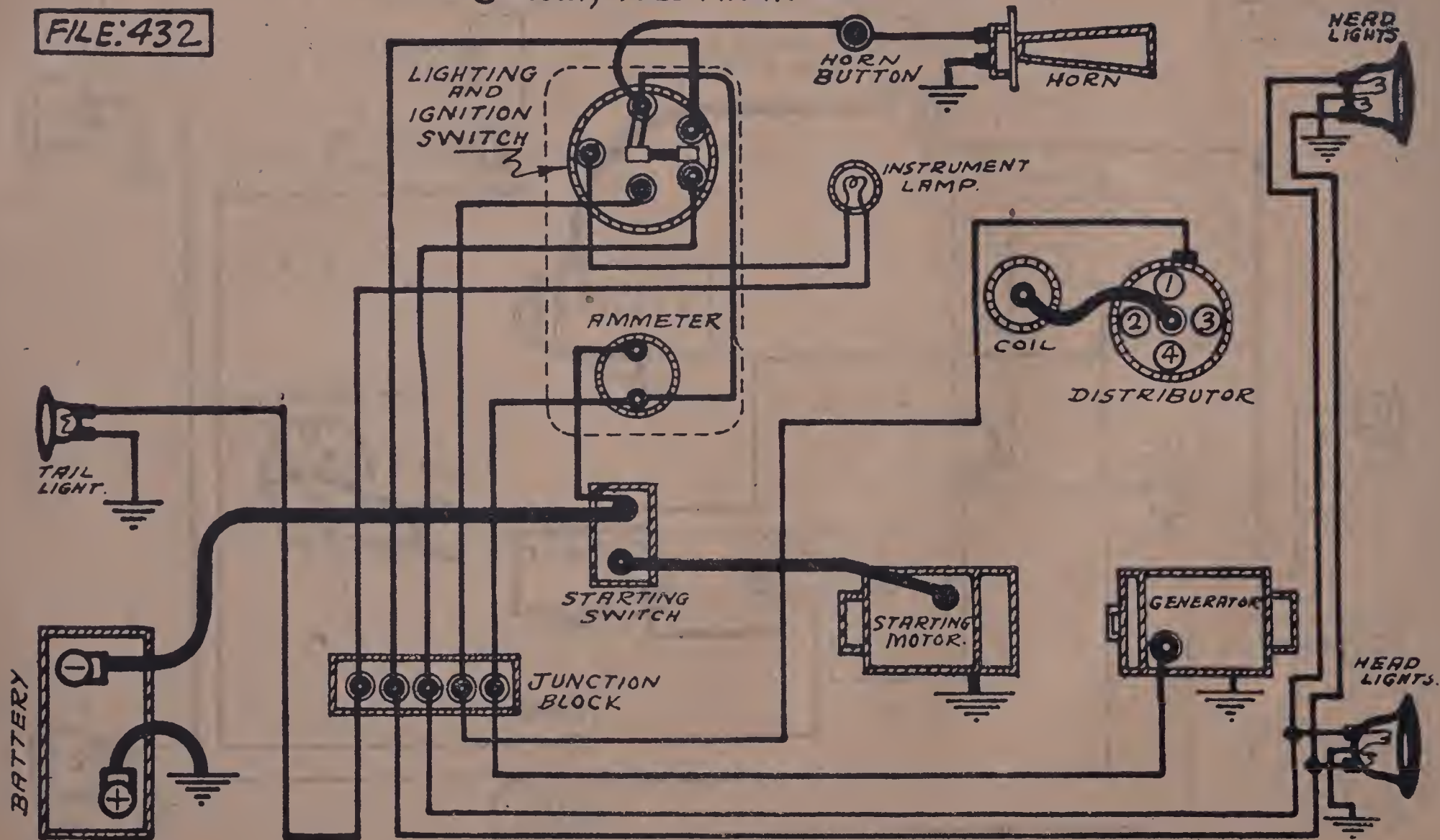
DUPLEX TRUCK

1920-1921

MODEL - A

6-VOLT, WESTINGHOUSE SYSTEM.

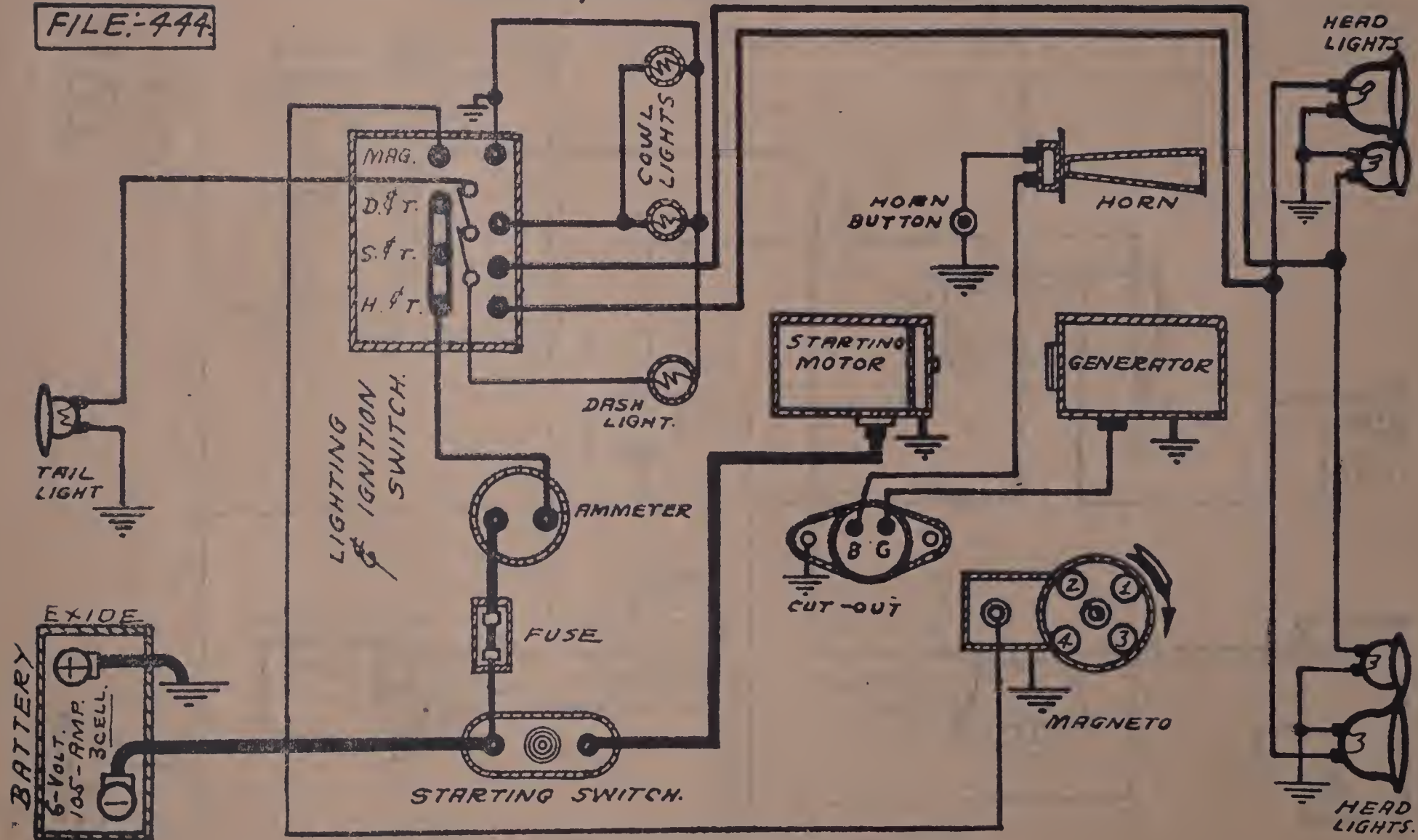
FILE:432



DUPONT

1920-1921 MODEL - A.
6-VOLT, WESTING HOUSE SYSTEM.

FILE: 444.



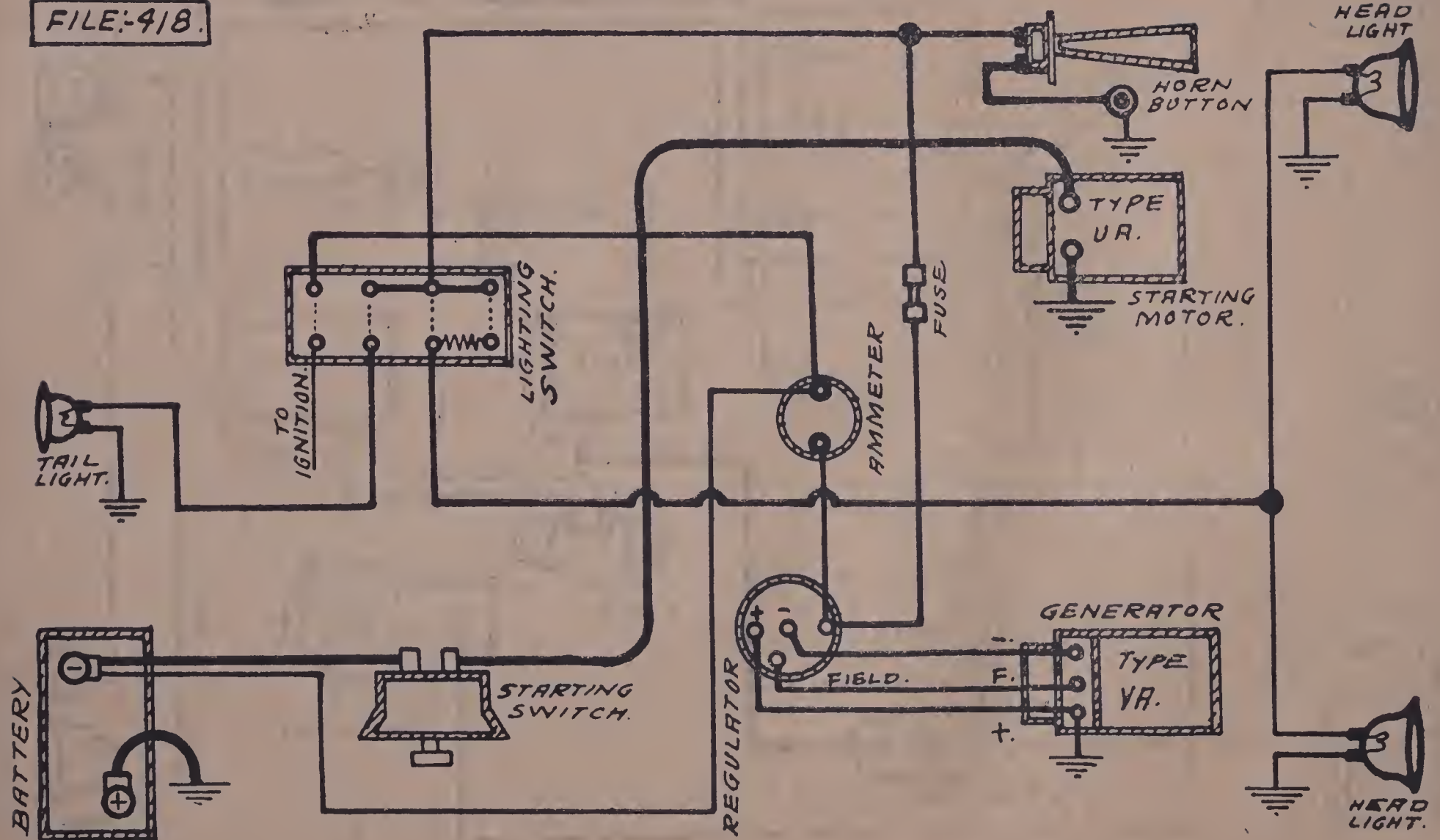
ELCAR

1916-1917.

MODELS

6-VOLT, DYNETO SYSTEM.

FILE: 418.



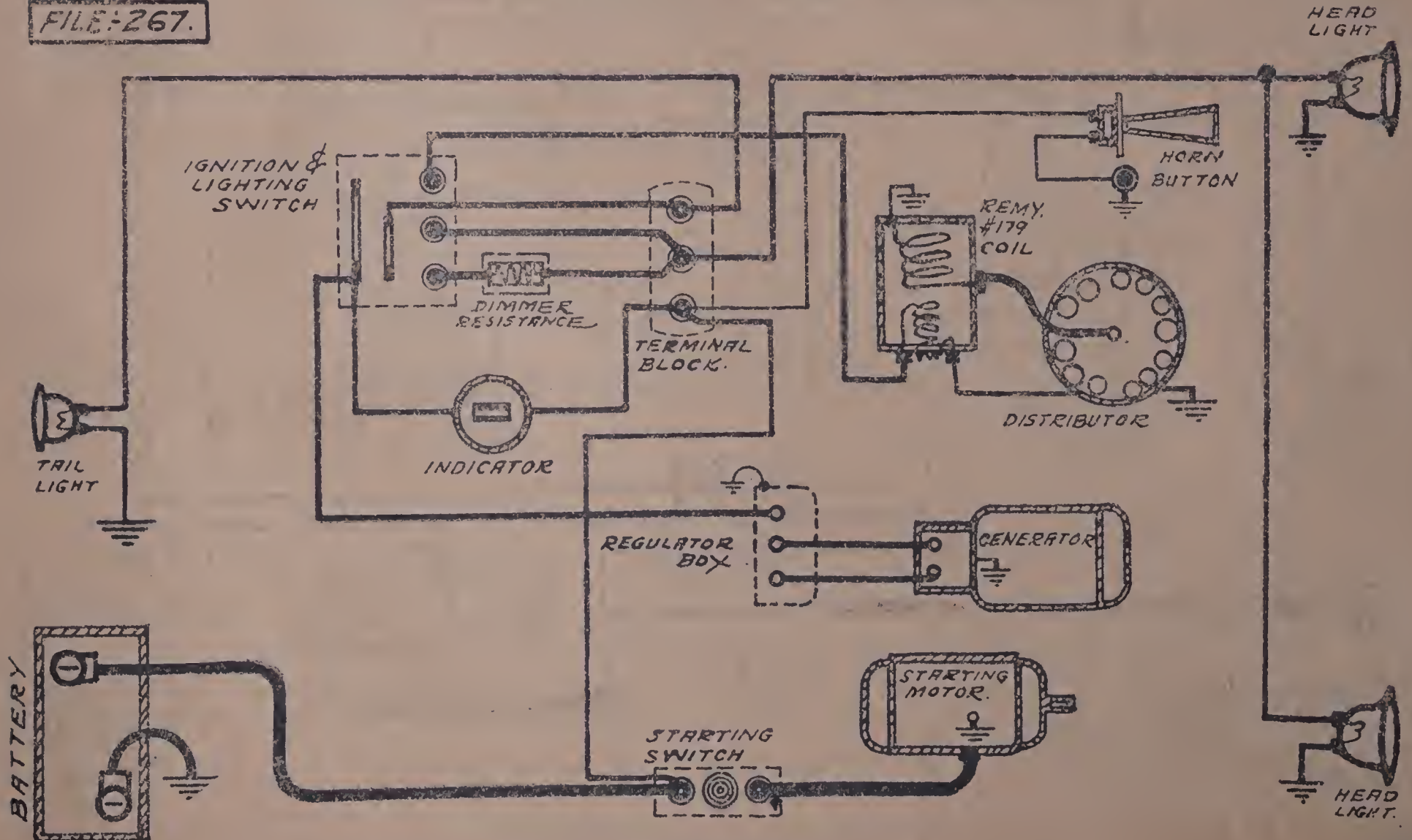
ENGER

1916-1917.

TWIN-SIX, 16, 17.

6-VOLT, -WESTINGHOUSE SYSTEM.

FILE-267.



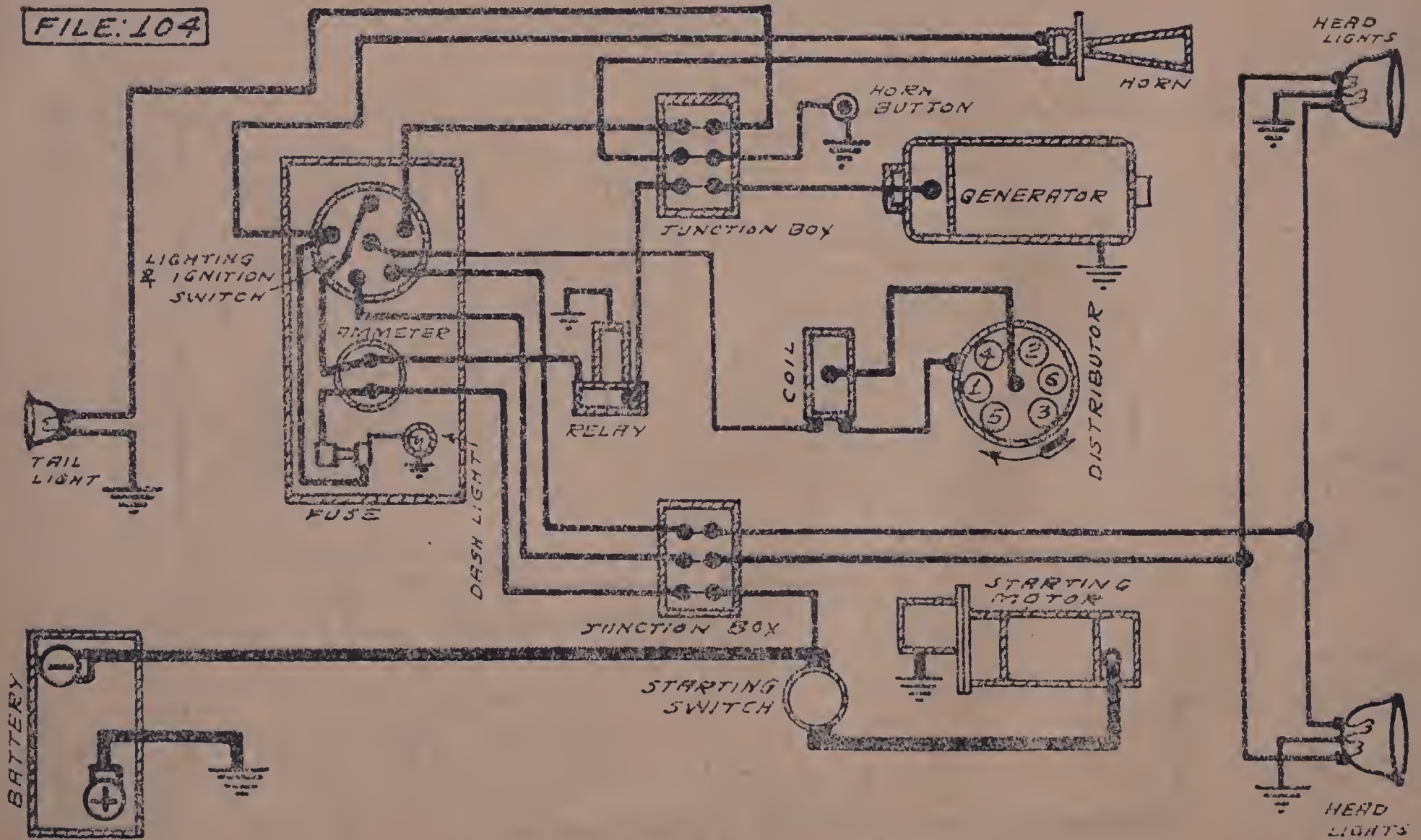
1920

ELGIN

6-VOLT, WAGNER.

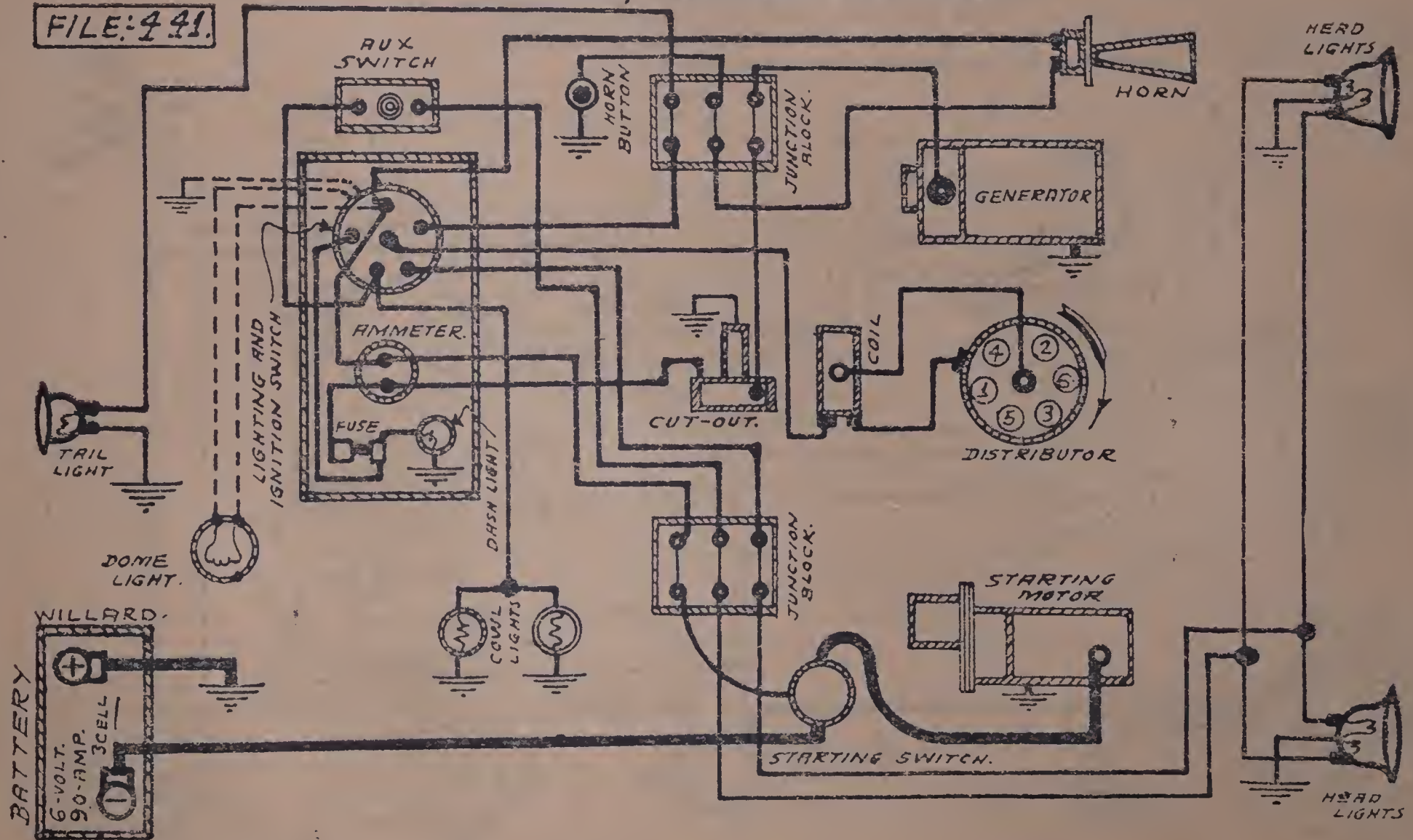
MODEL K

FILE: 104



ELGIN

1920 - 1921 SERIES K-1
6-VOLT, -WAGNER SYSTEM.



FERRIS

1920-1921

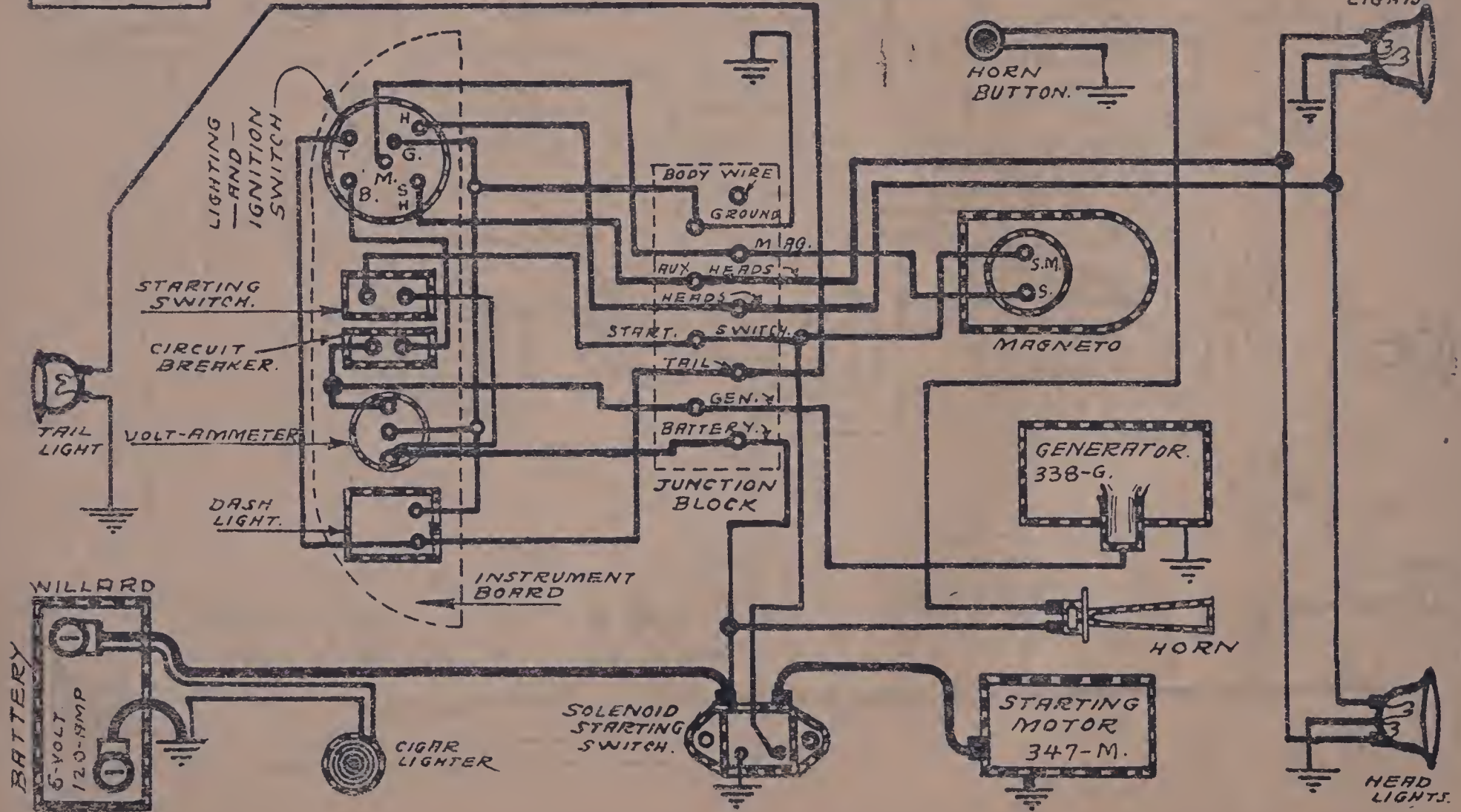
- 6 -

SERIES C-20, C-21.

6-7½ VOLT, LEECE NEVILLE SYSTEM.

FILE:-413.

Note:- STARTING BUTTON ON DASH OPERATES SOLENOID SWITCH.

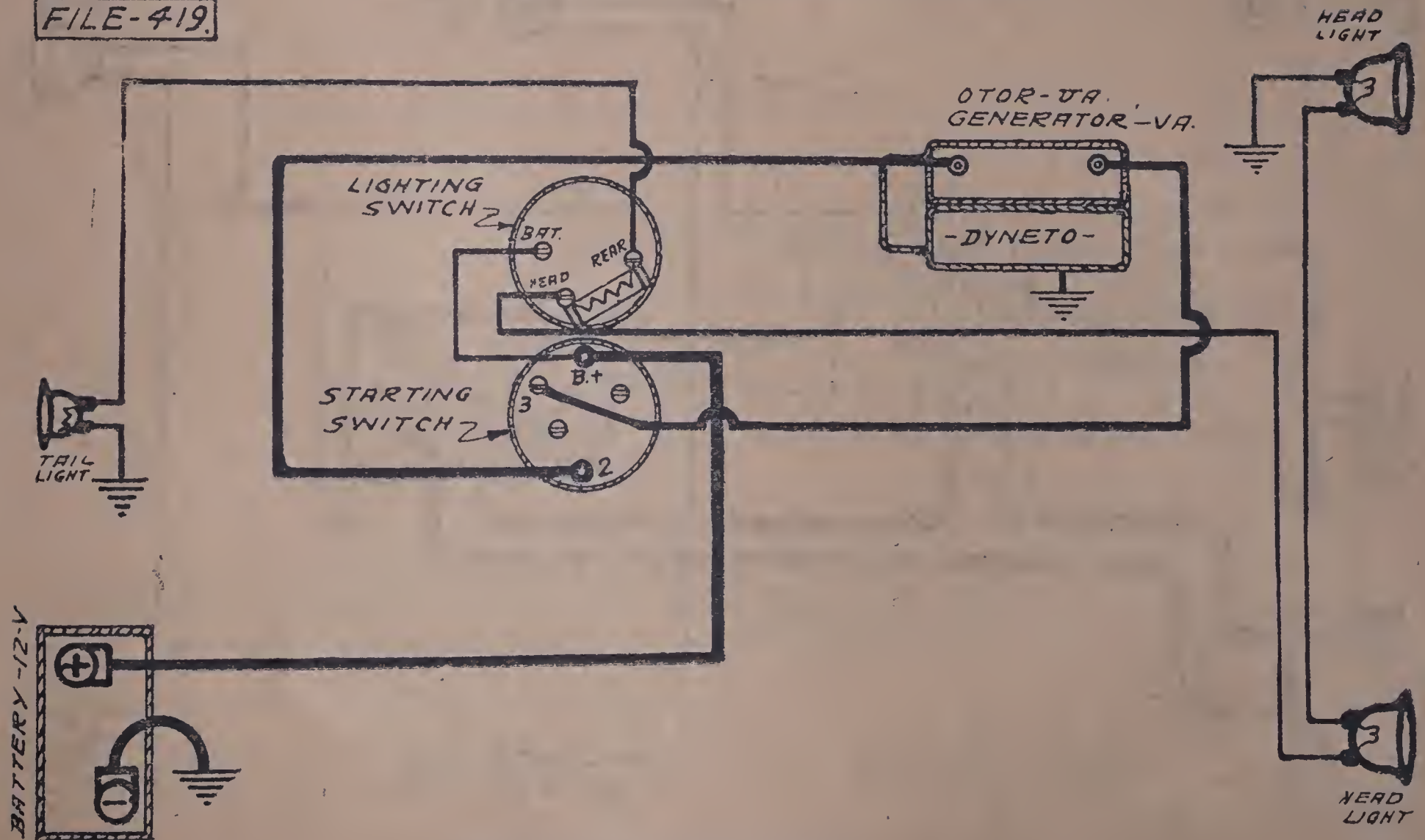


FORD

MODEL-A.

12-VOLT, DYNETO SYSTEM.

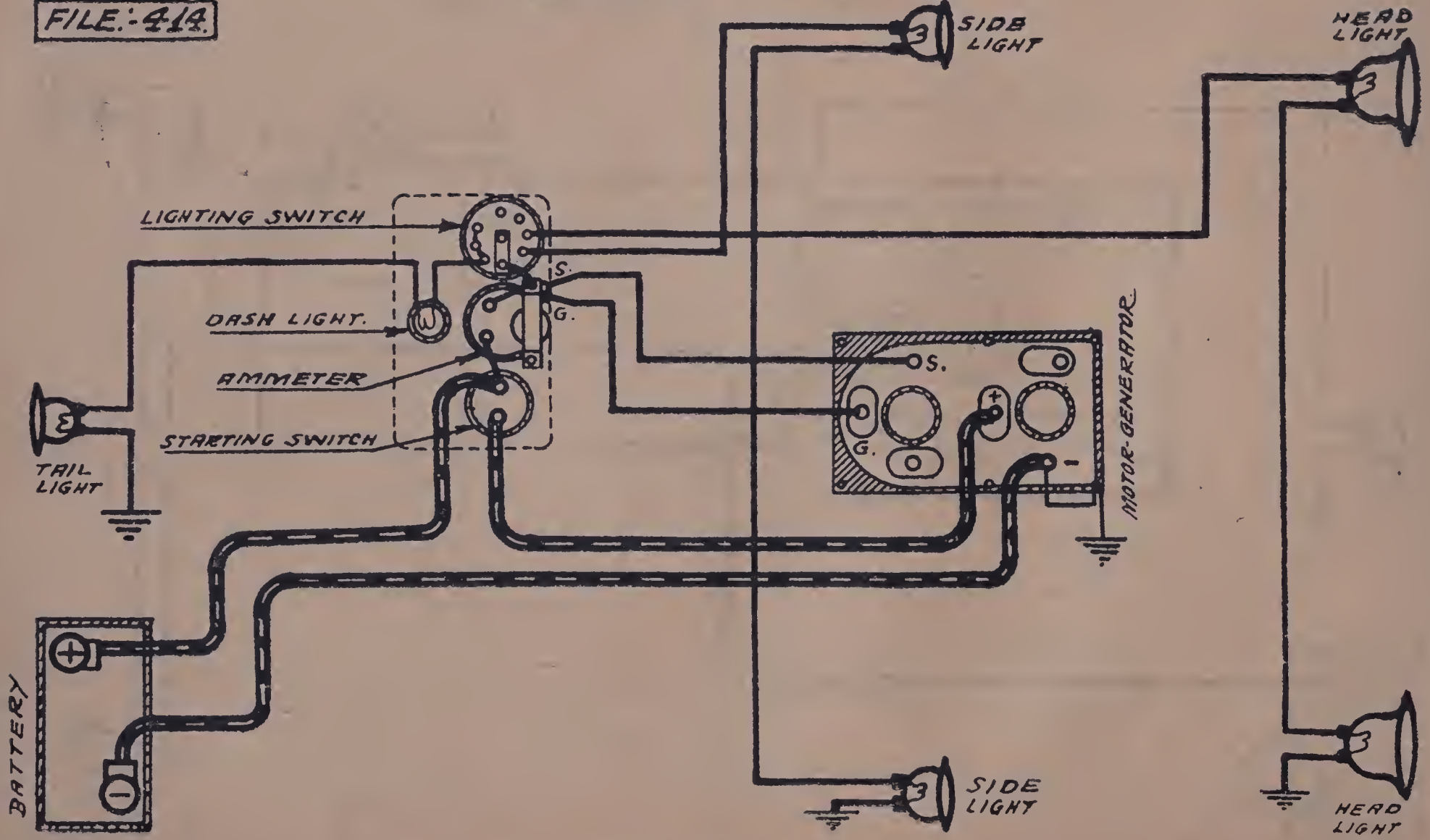
FILE-419.



FORD

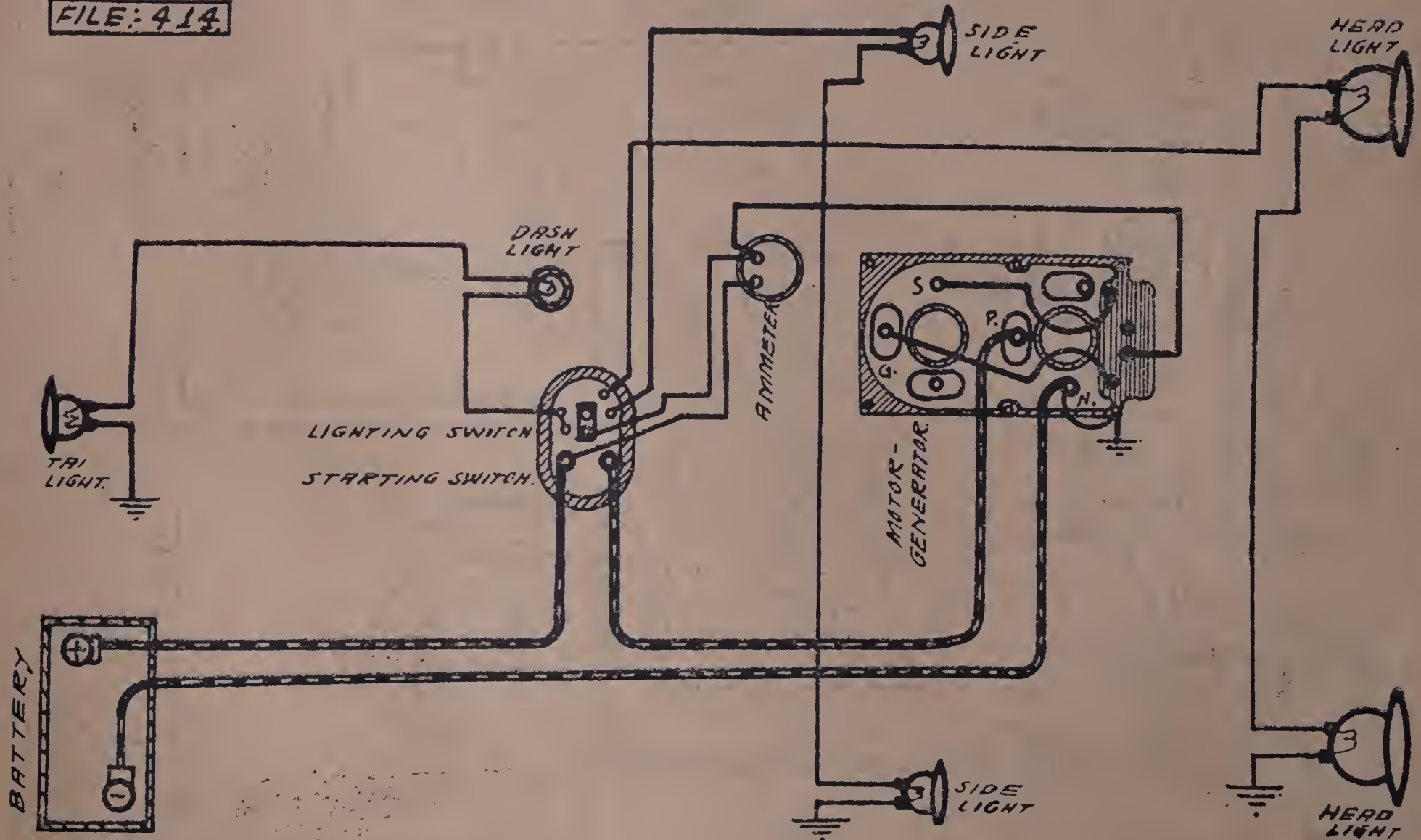
AS USED BEFORE 1917.
12-VOLT, FISHER SYSTEM.

FILE: 414.



FORD
1917-1918
12-VOLT, FISHER SYSTEM.

FILE: 414

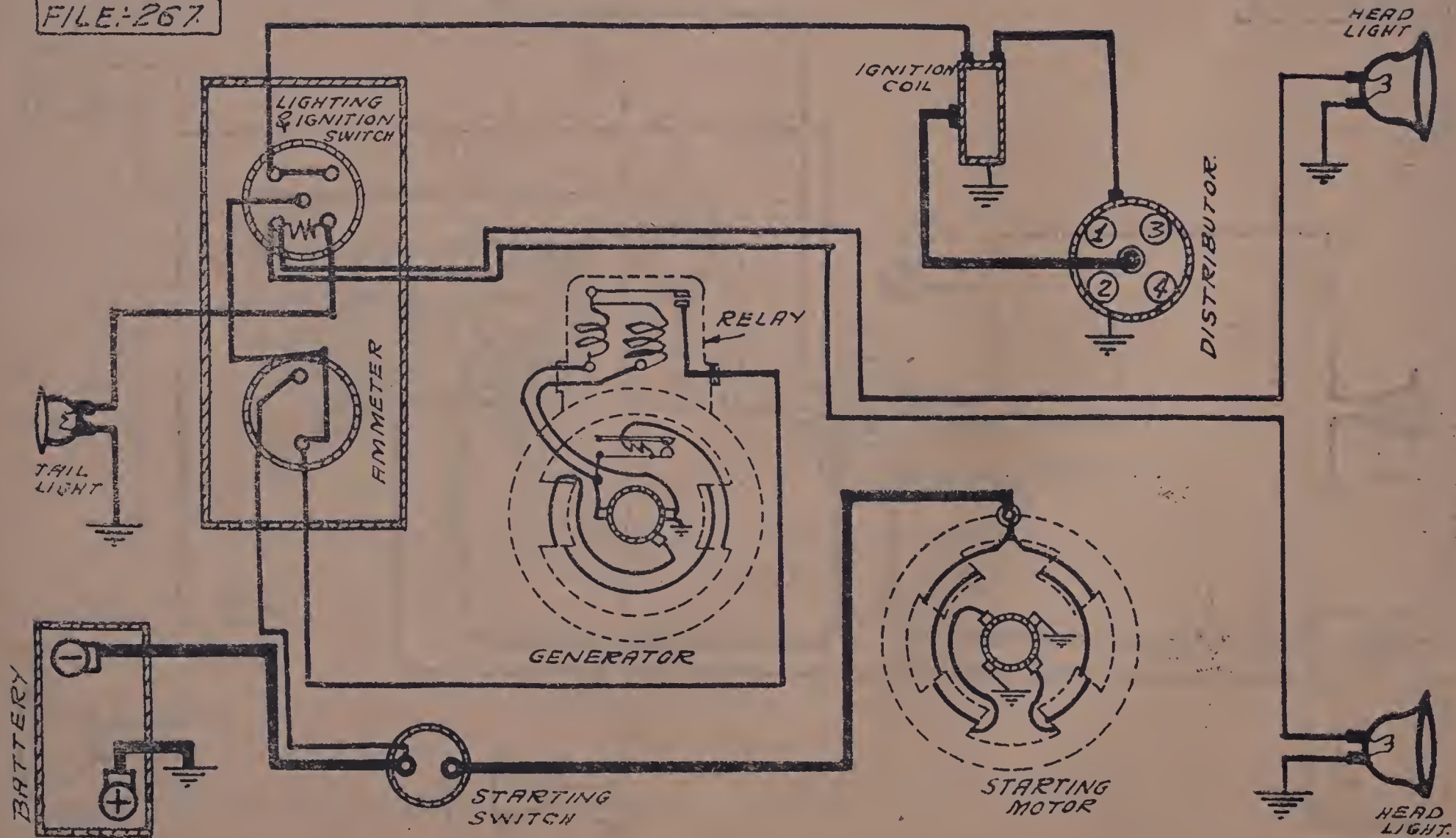


ATLAS

3/4-TON TRUCK

6-VOLT, REMY SYSTEM.

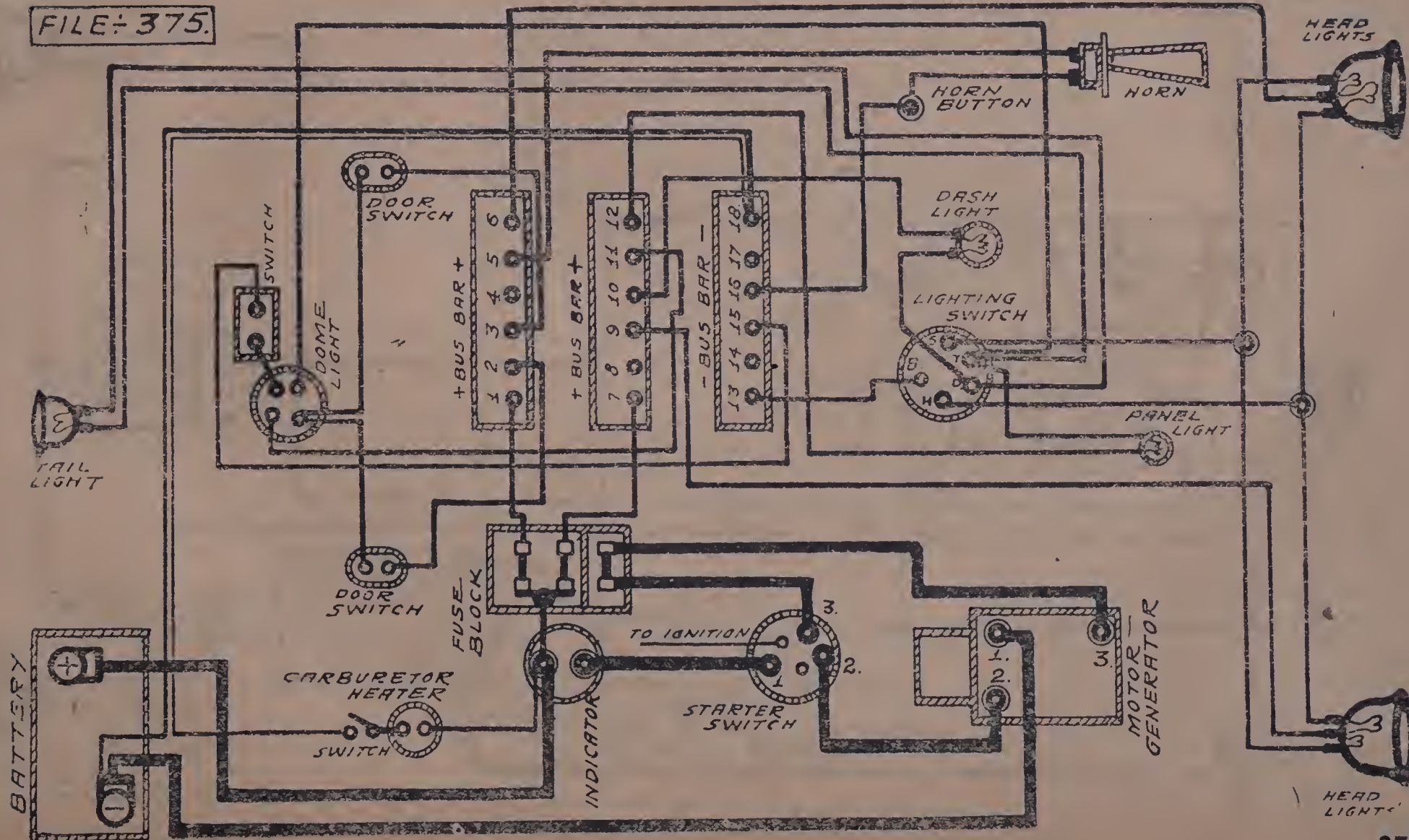
FILE-267



FRANKLIN

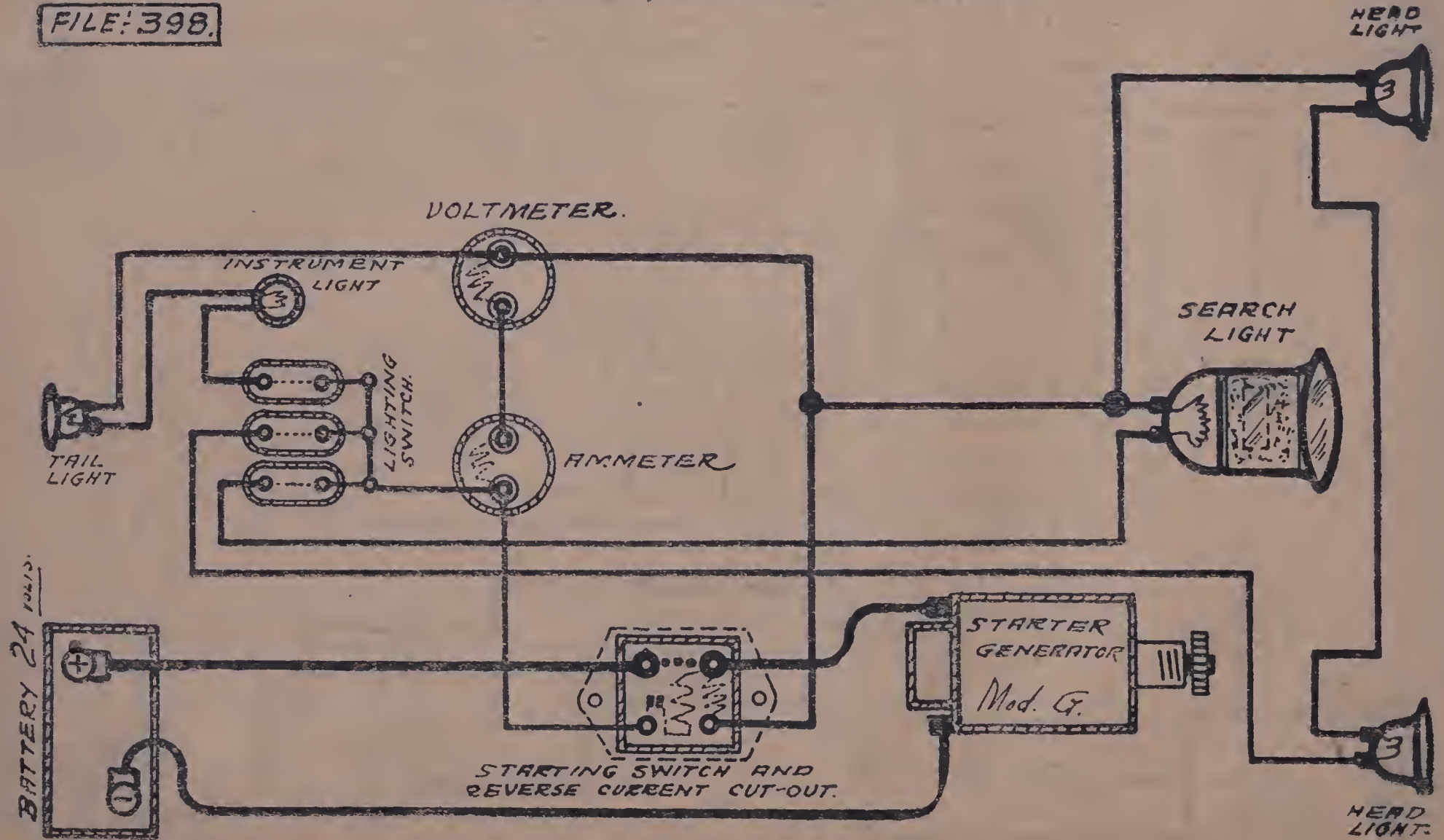
1921
12-VOLT, DYNETO SYSTEM.

FILE 375.



F.W.D. TRUCK
1920-1921
24-VOLT, NORTH EAST SYSTEM.

FILE: 398.



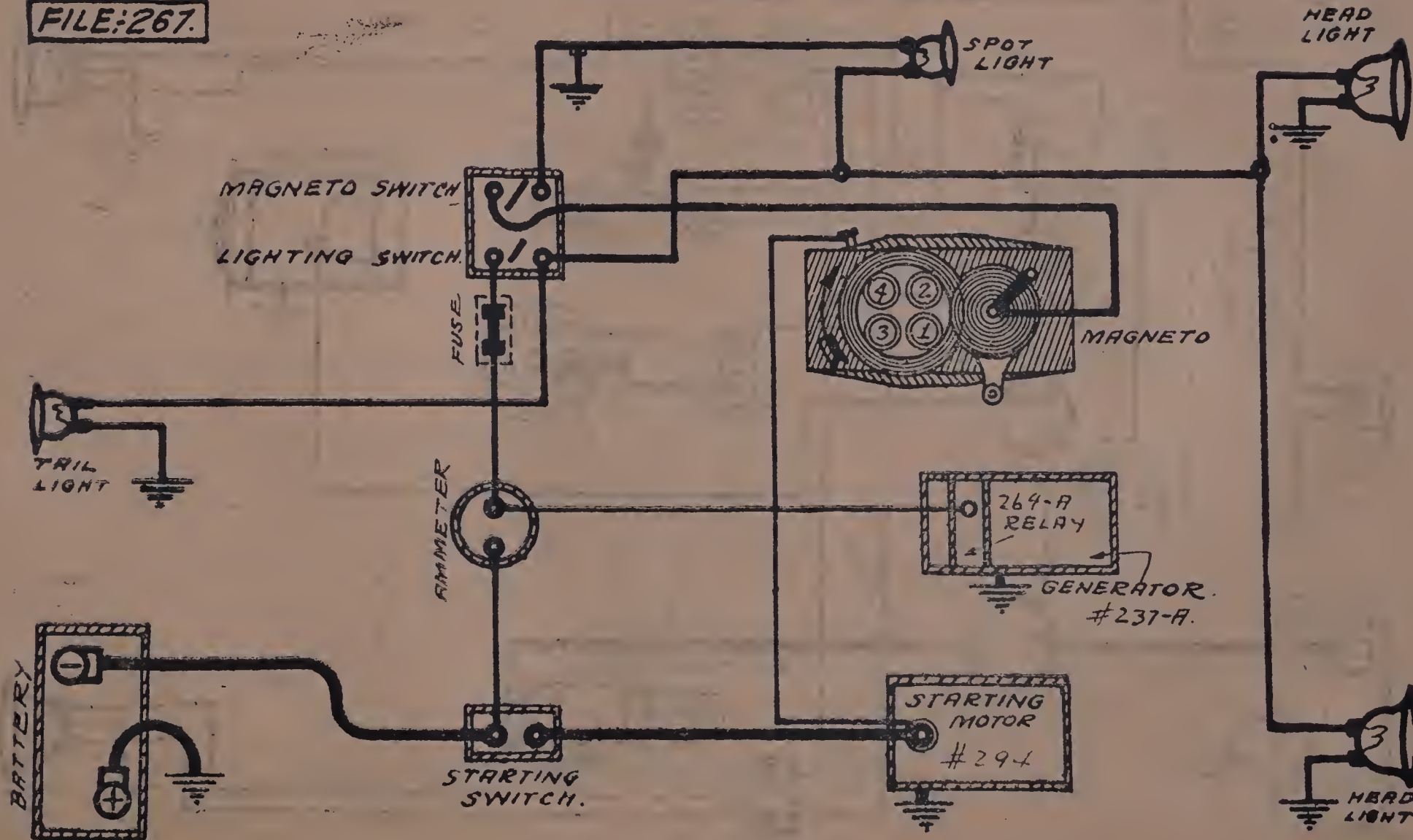
GRANT TRUCKS

1918,-19;20,-21.

MODELS 9-10-11-15-16-17.

6-VOLT, REMY SYSTEM.

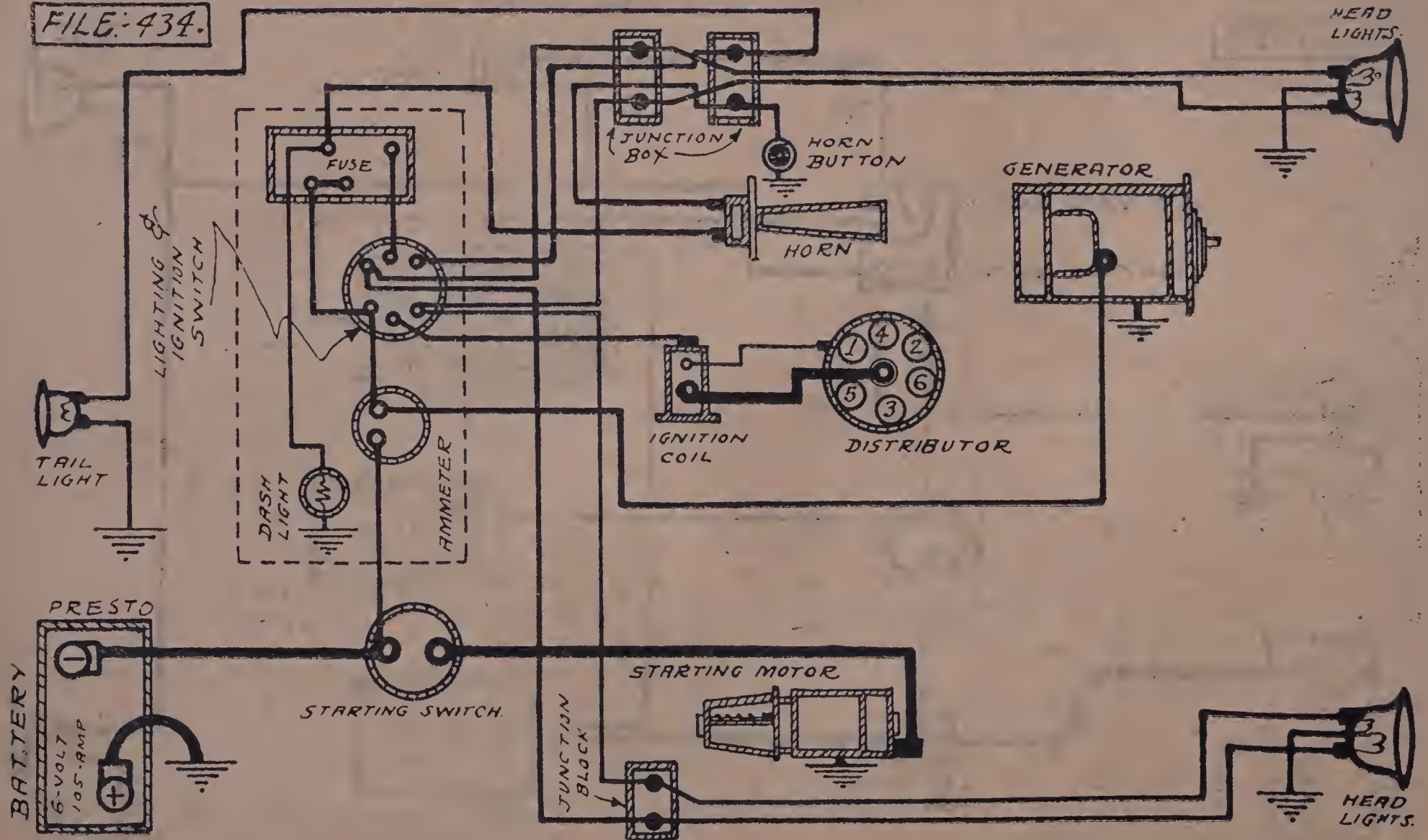
FILE:267.



GRANT

1920-1921 MODELS, HX, HY.
6-VOLT, BIJUR SYSTEM

FILE: 434.



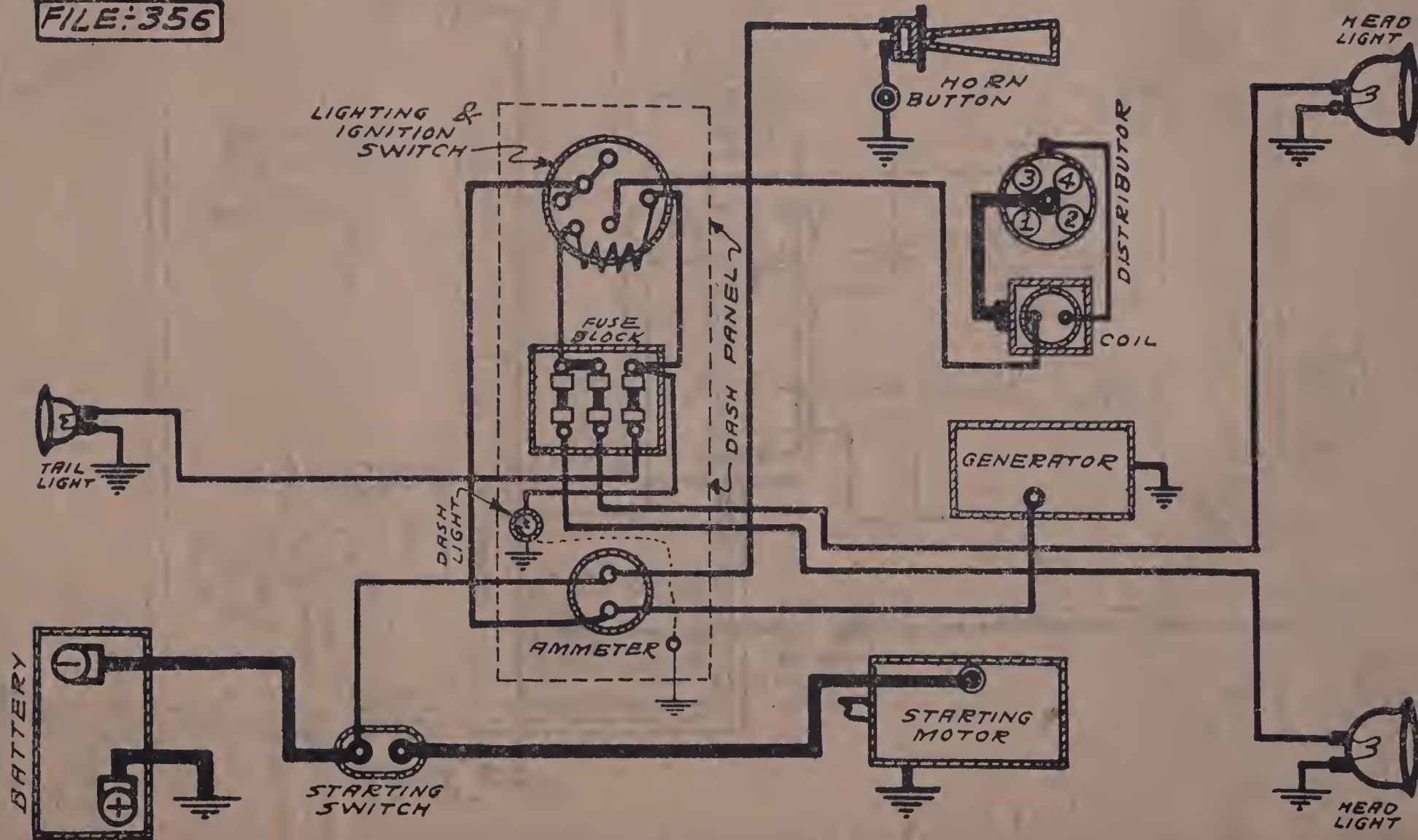
1921

GARDNER

MODEL-G.

6-VOLT, WESTINGHOUSE SYSTEM.

FILE:356



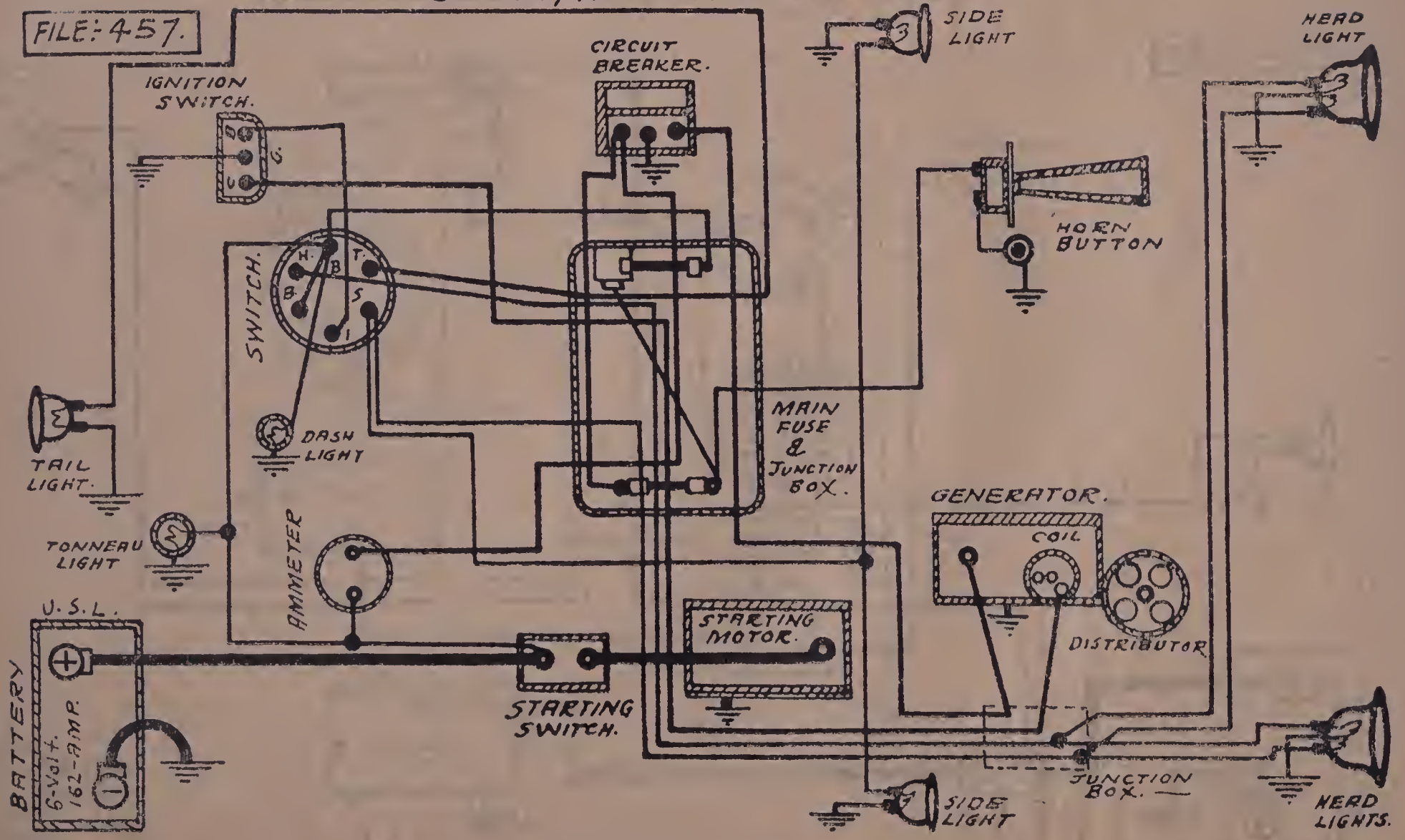
HANDLEY-KNIGHT.

1921

MODEL-A.

6-VOLT, AUTOLITE SYSTEM.

FILE: 457.

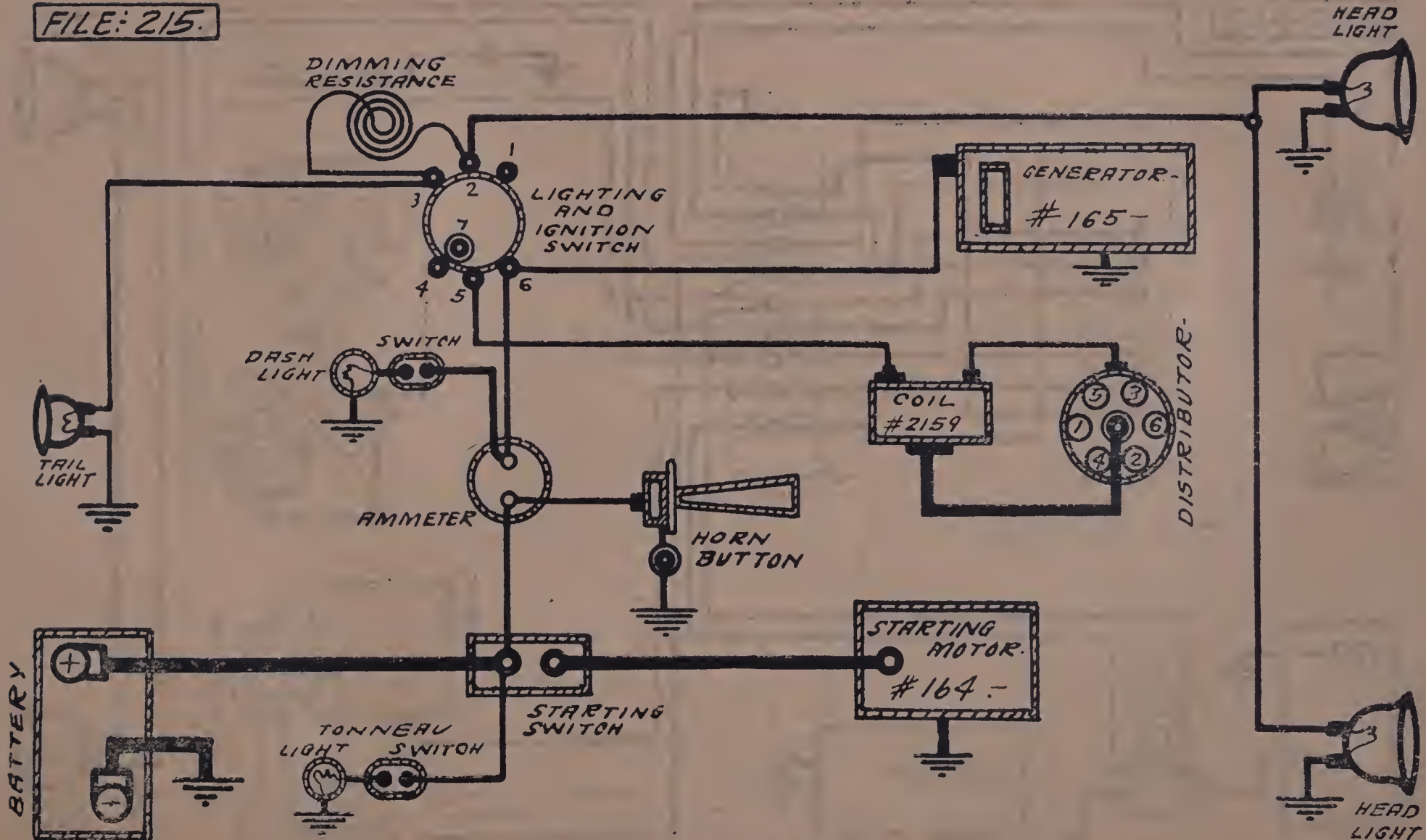


1921

HANSON

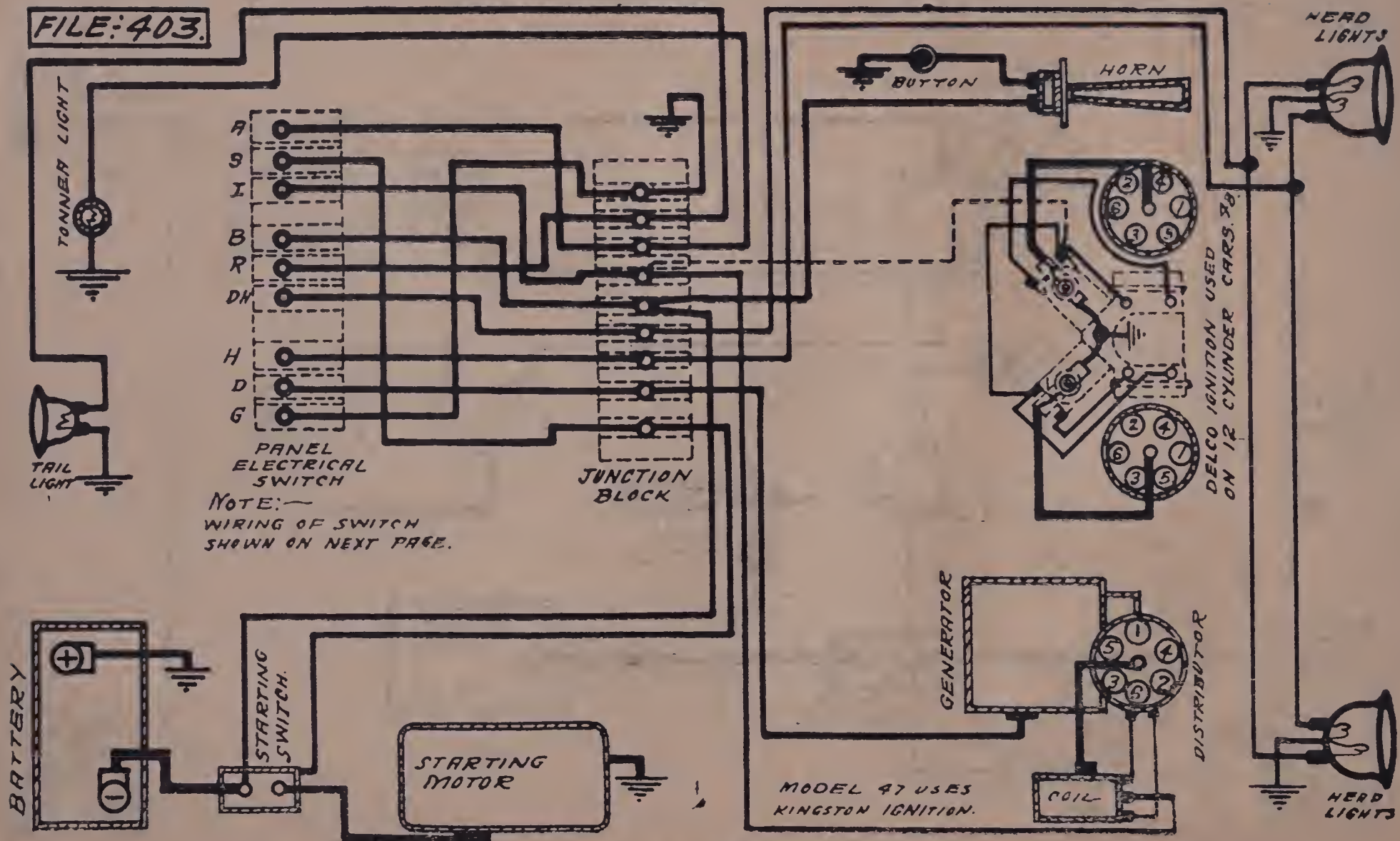
MODEL 54-60.
6-VOLT, DELCO SYSTEM.

FILE: 215.



HAYNES

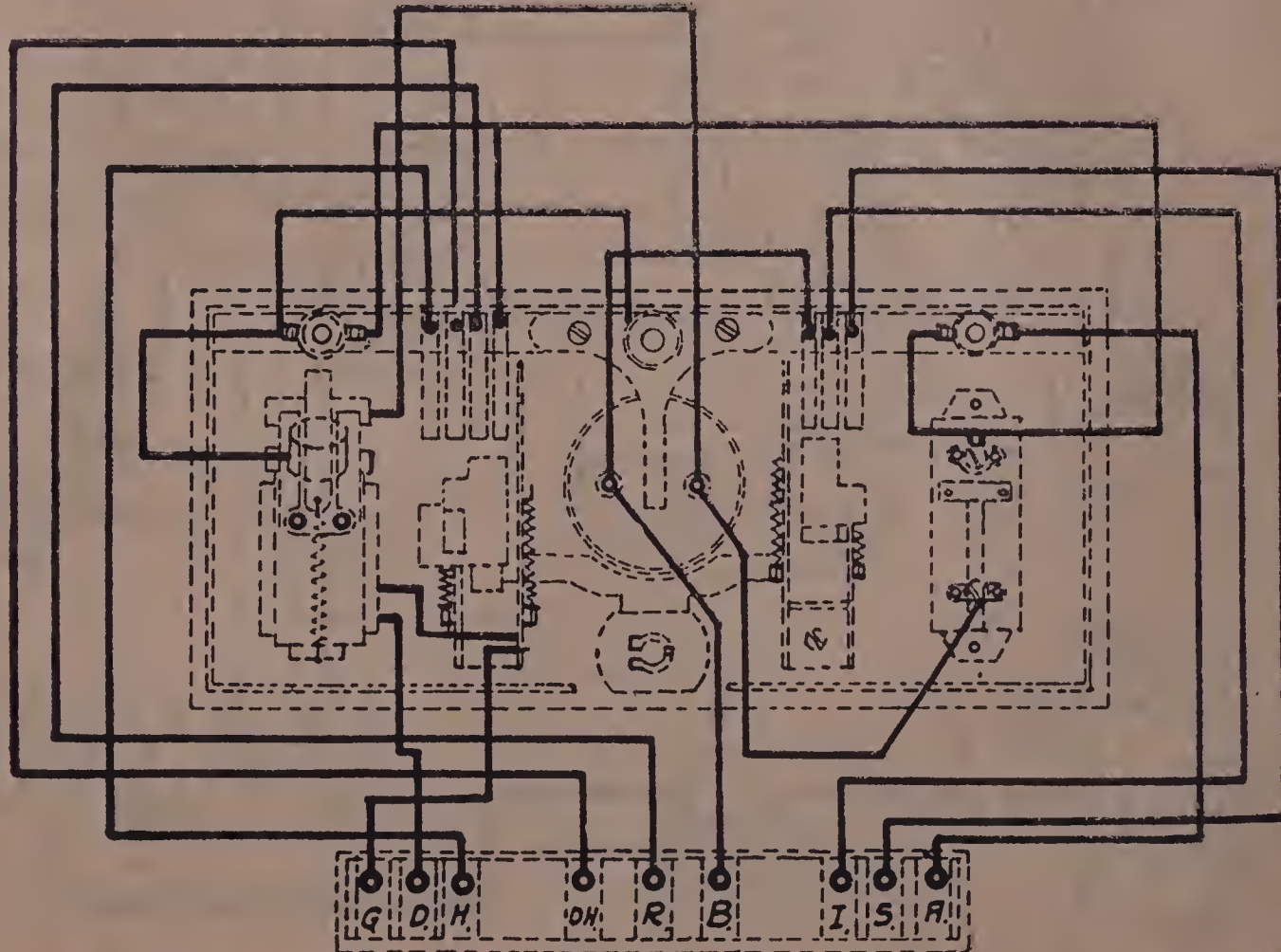
1921 MODEL 47, 48.
6-VOLT, LEECE-NEVILLE SYSTEM.



HAYNES

WIRING DIAGRAM OF PANEL ELECTRICAL SWITCH. AS USED ON 1921 -MOD. 47, 48.

FILE: 403.



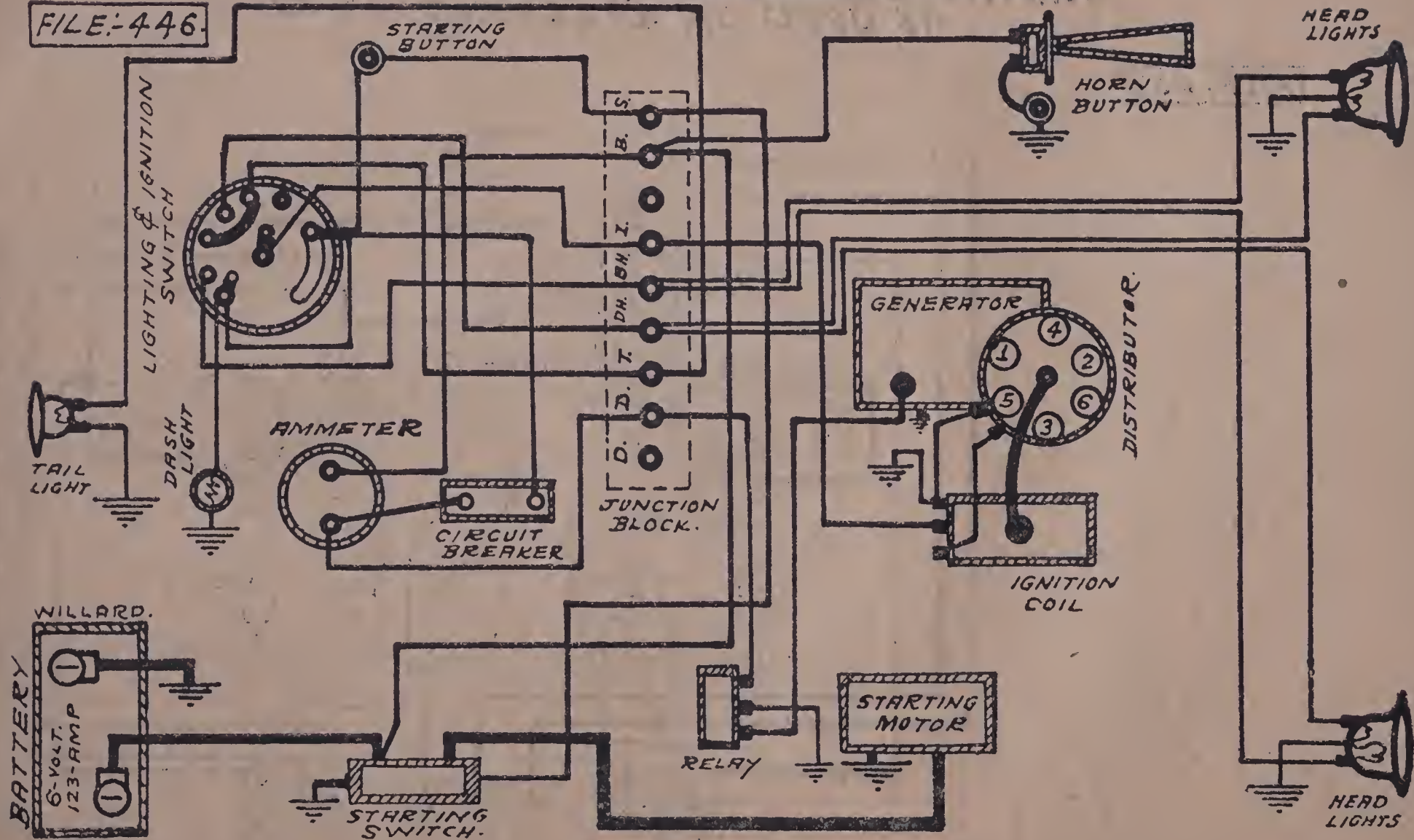
HAYNES

1921

MODEL 50.

6-VOLT, LEECE-NEVILLE SYSTEM

FILE: 446

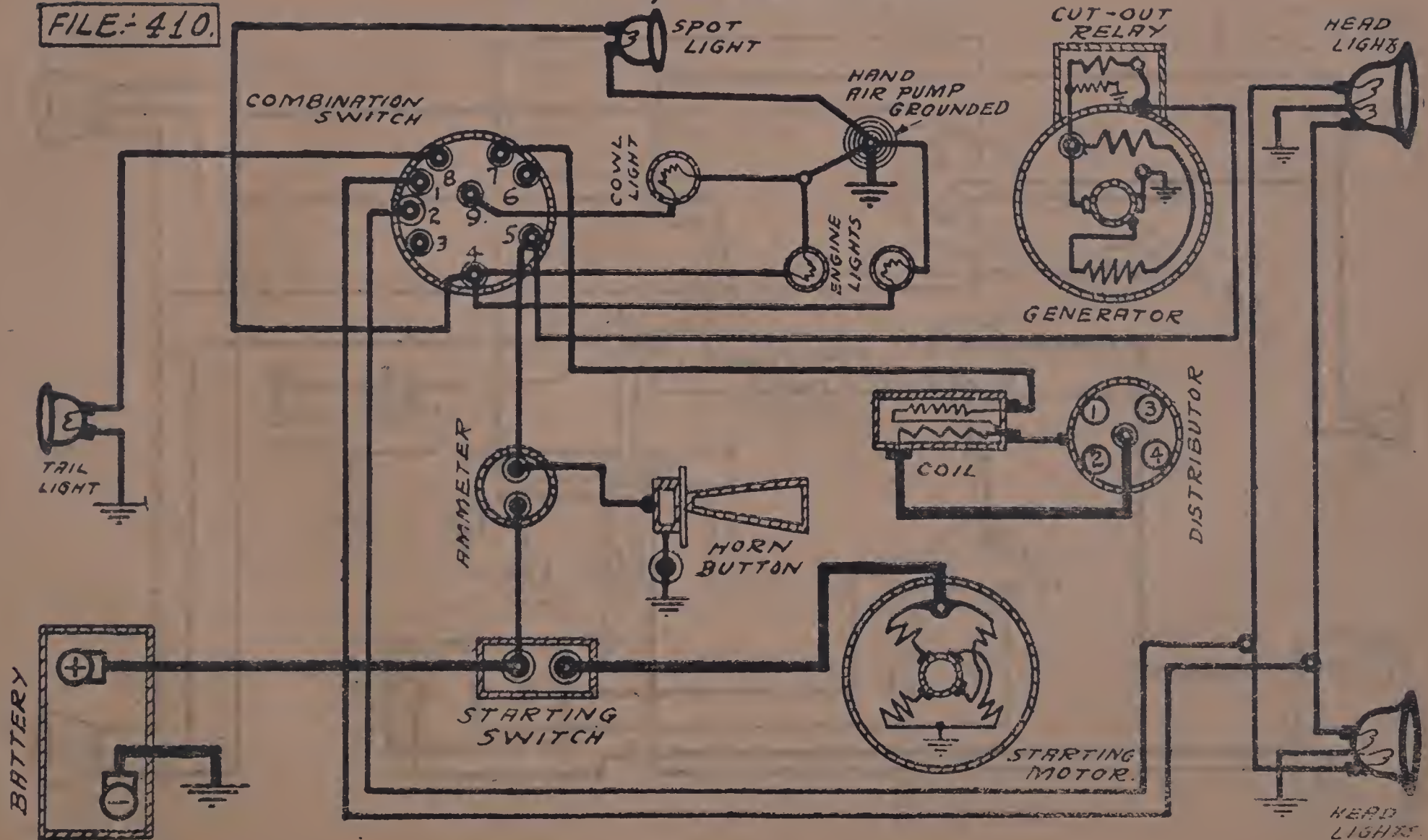


H. C. S.

1921

SERIES - 3.

6-VOLT, - DELCO SYSTEM.



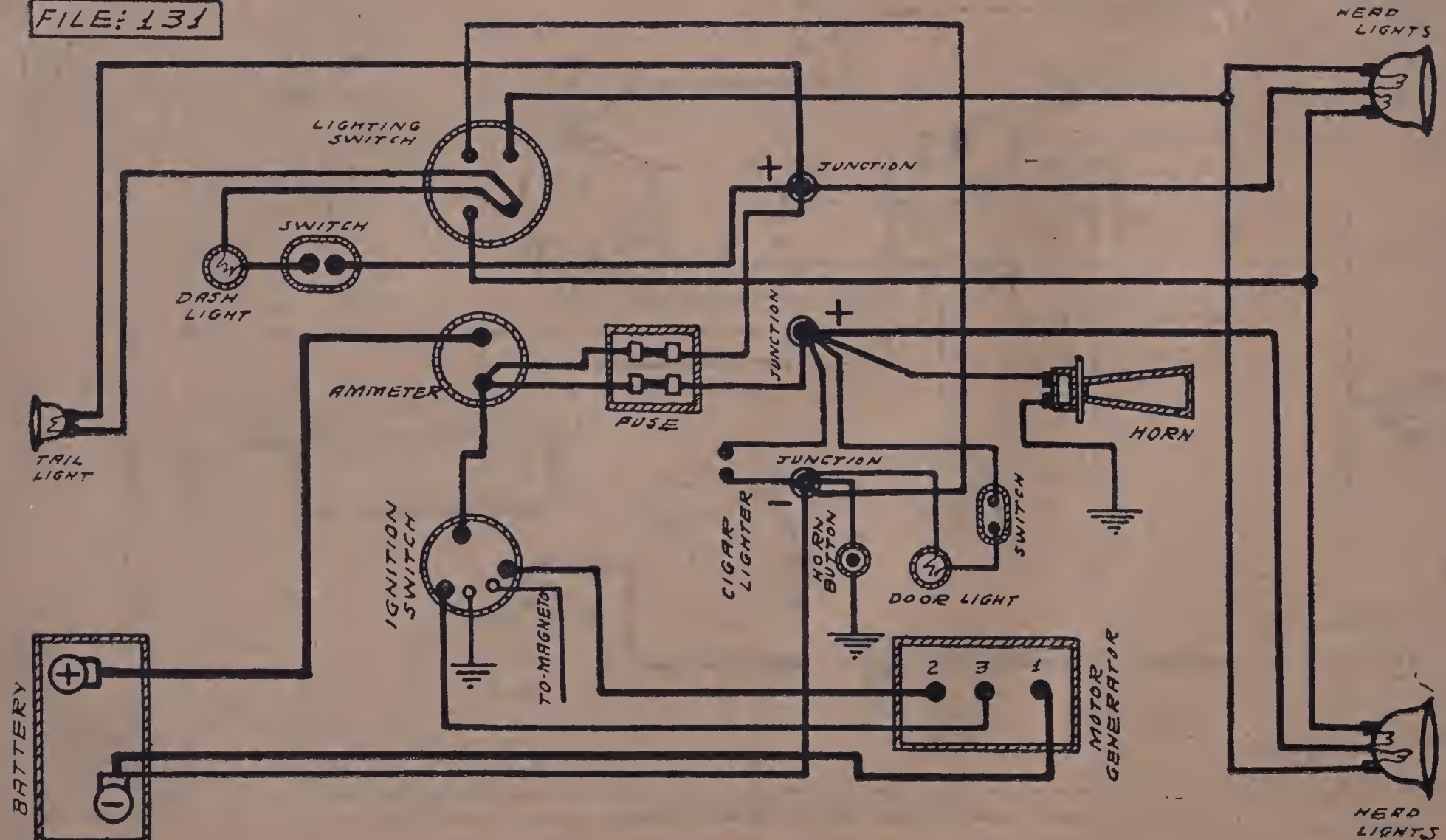
1921

HOLMES

MODEL; 4; 5.

12-VOLT, DYNETO SYSTEM.

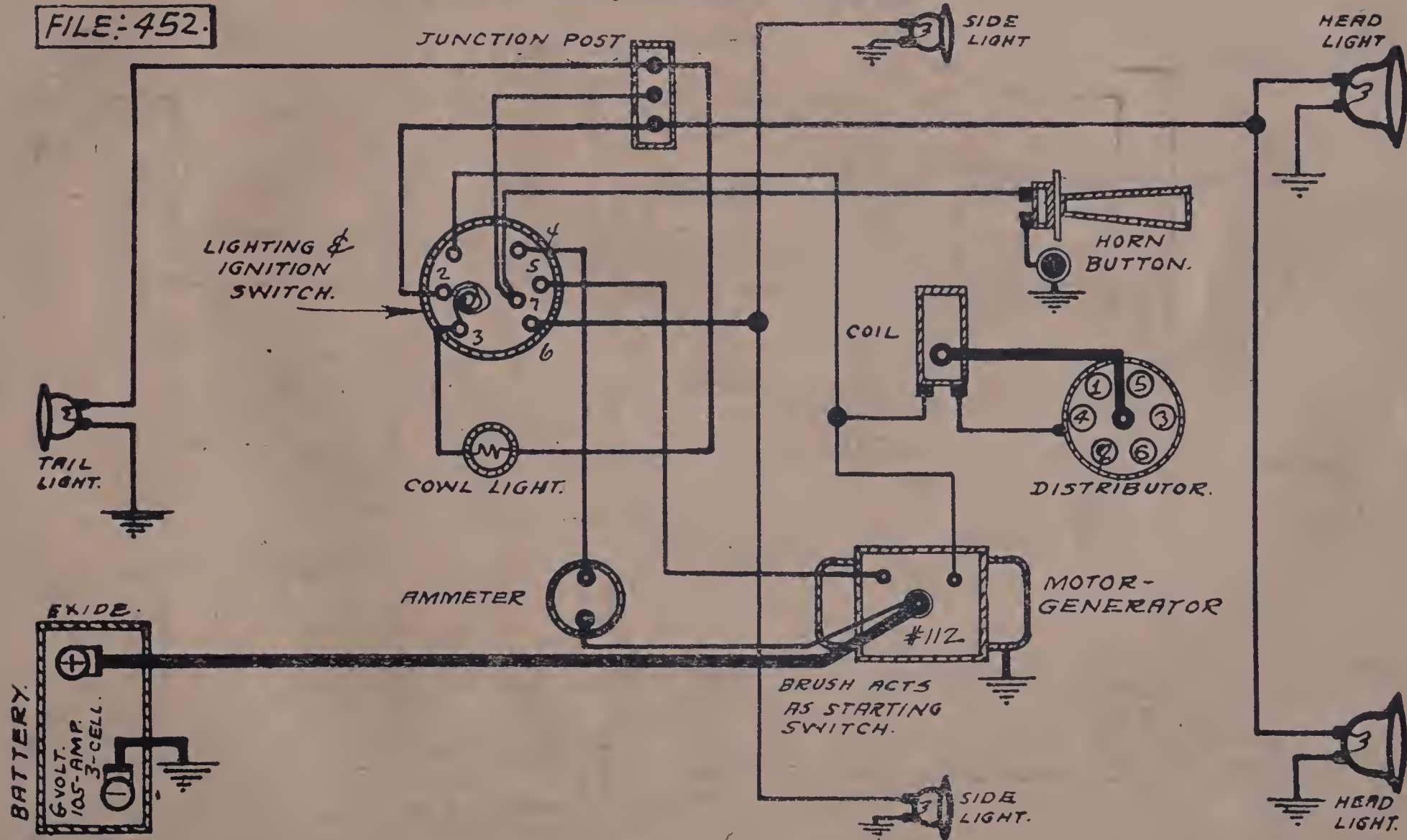
FILE: 131



HUDSON

1920-1921. SUPER-SIX, MODEL O.
6-VOLT, -DELCO SYSTEM.

FILE: 452.

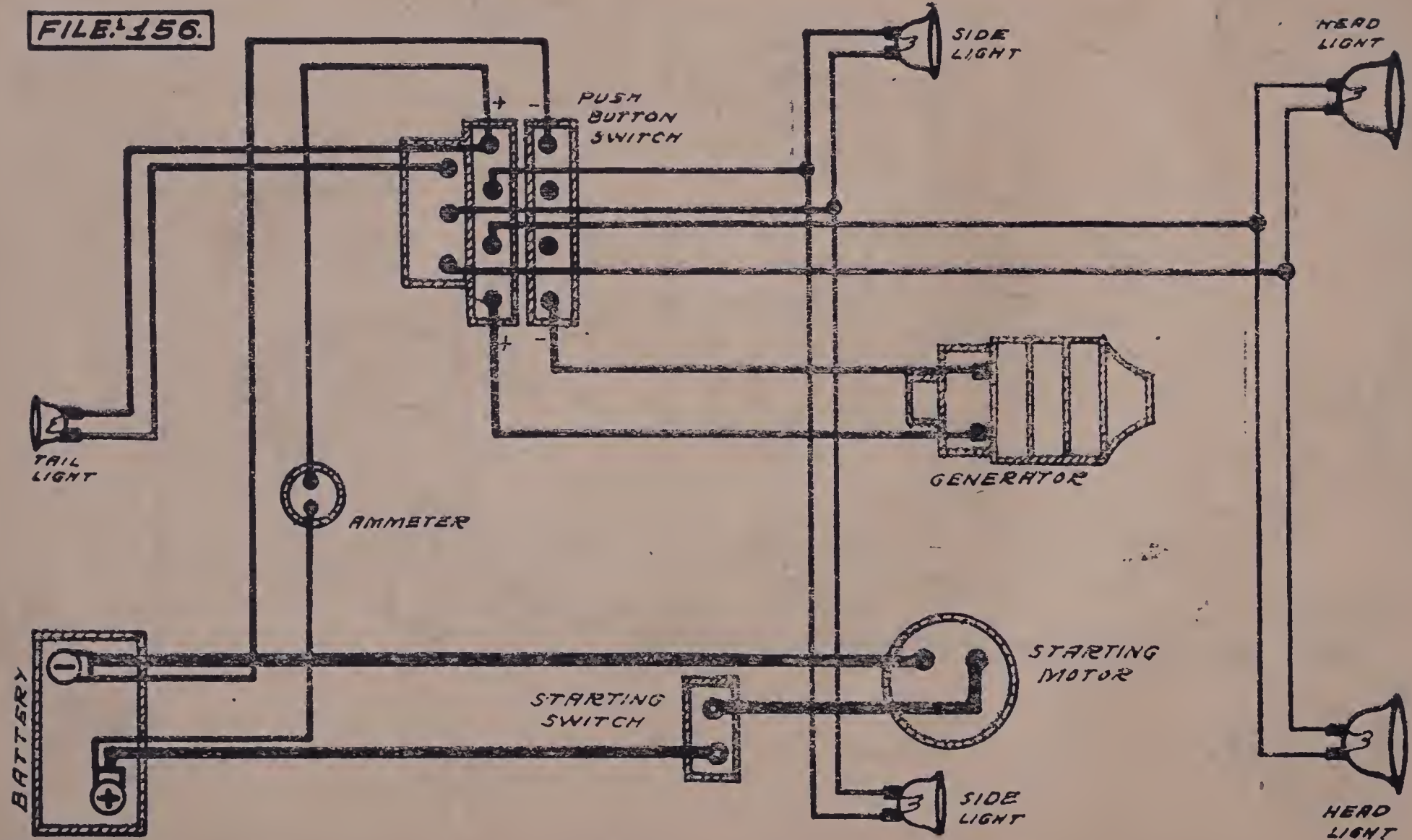


1921

JACKSON

MODEL 6-38
6-VOLT, AUTOLITE SYSTEM.

FILE 156.

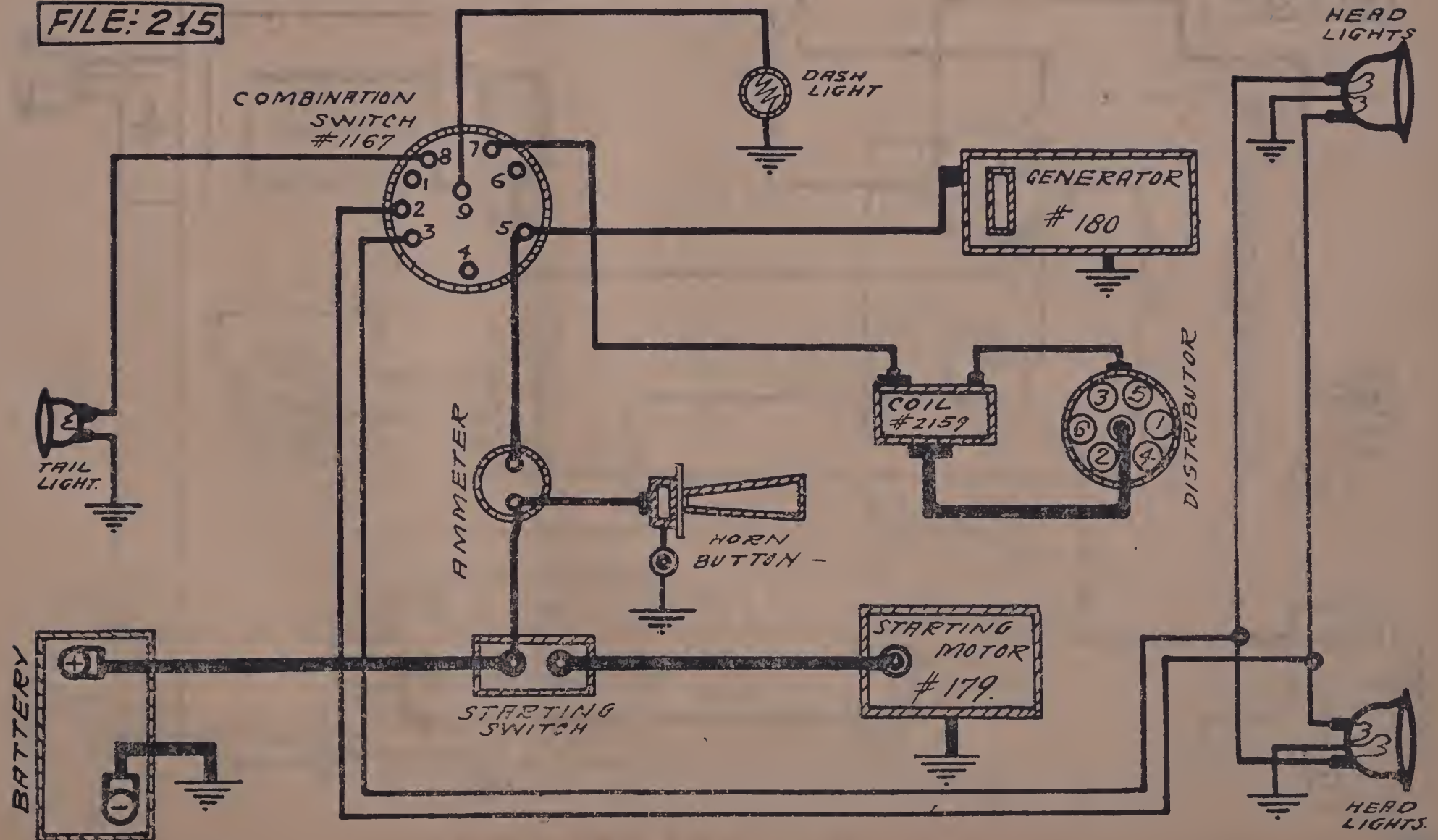


1921

JORDAN

MODEL F.
6-VOLT, DELCO SYSTEM.

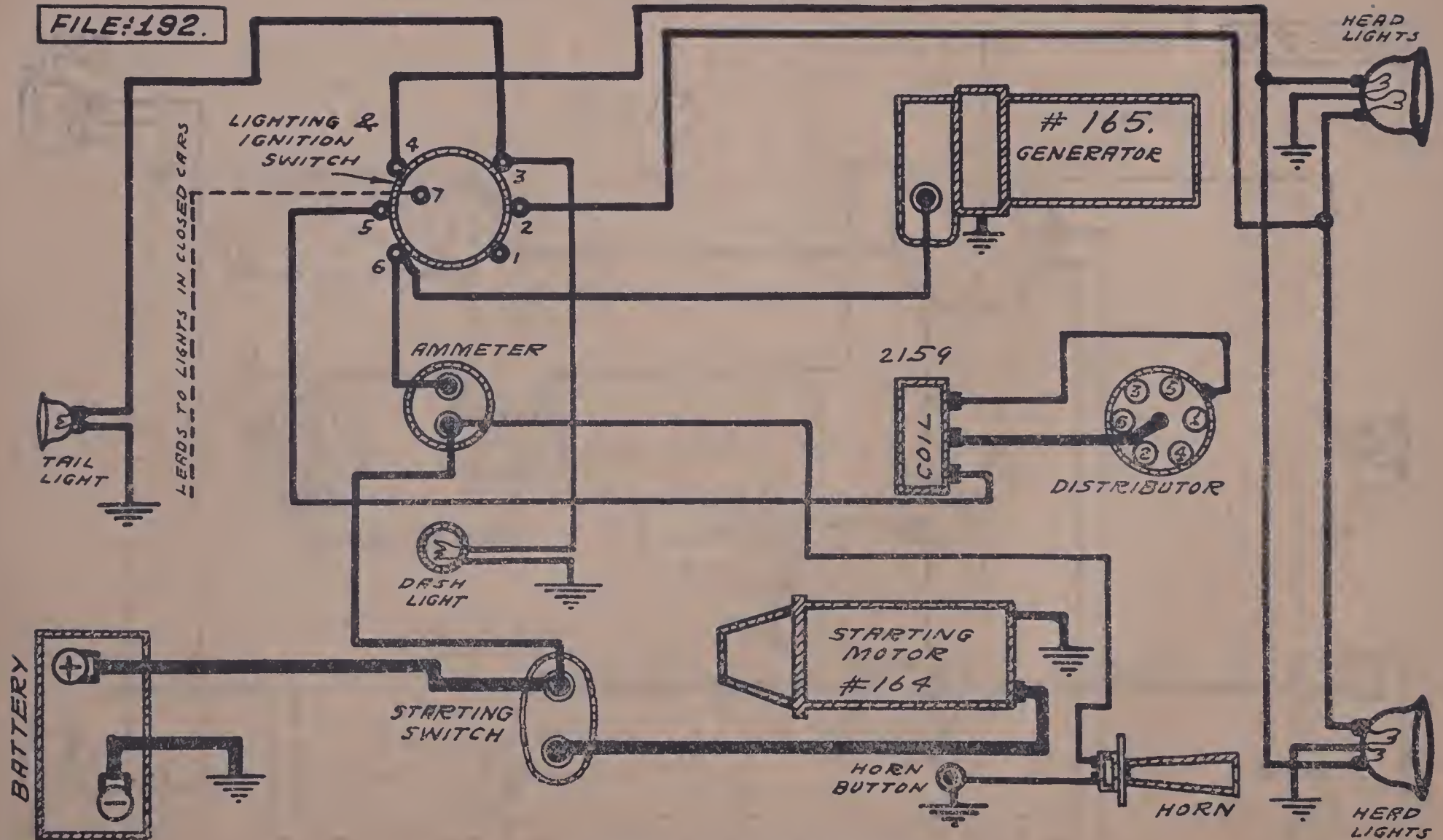
FILE: 215



1921

JORDAN

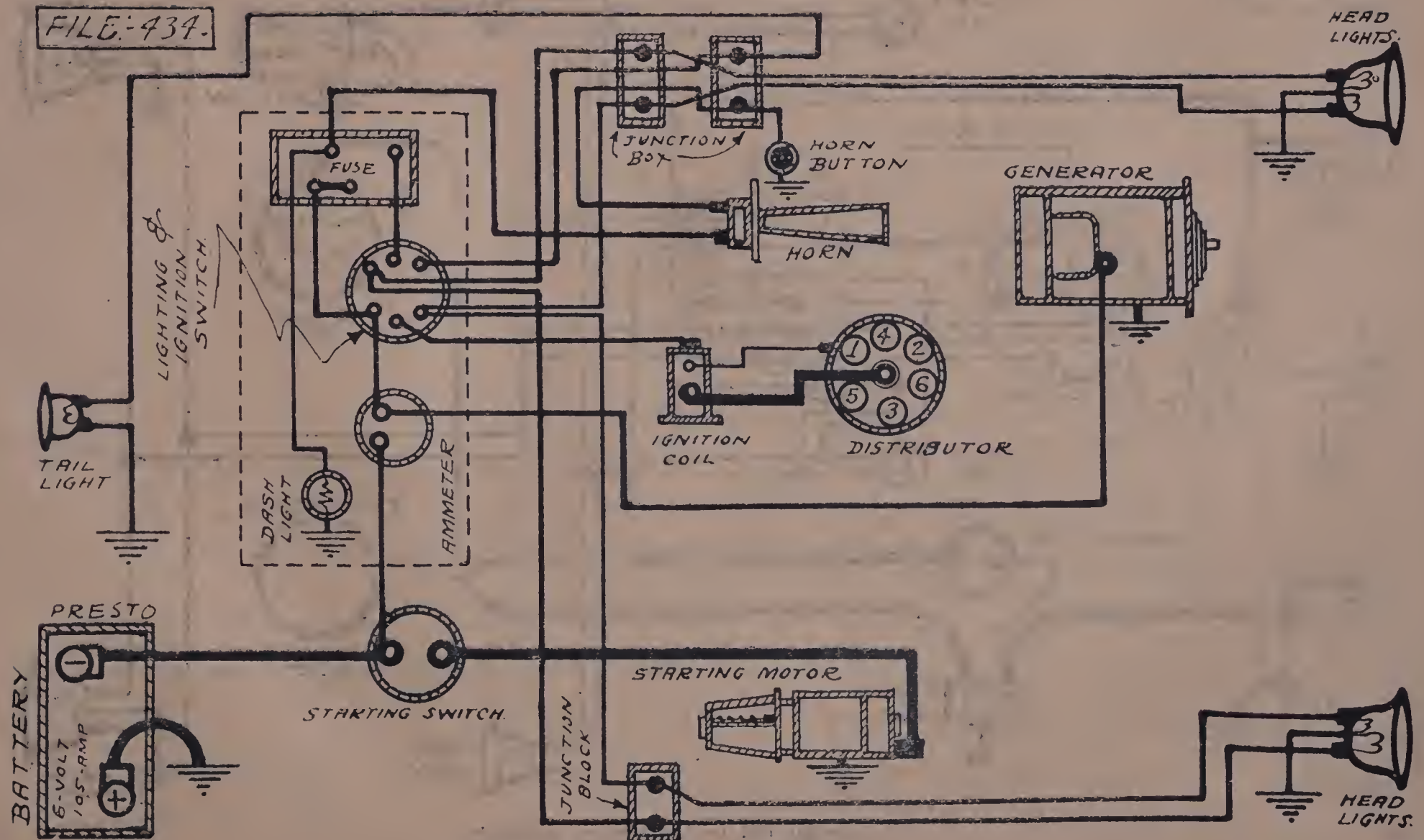
MODEL M.
6-VOLT, -DELCO SYSTEM.



KELSEY

1920-1921 MODELS.

6-VOLT, BITUR SYSTEM.



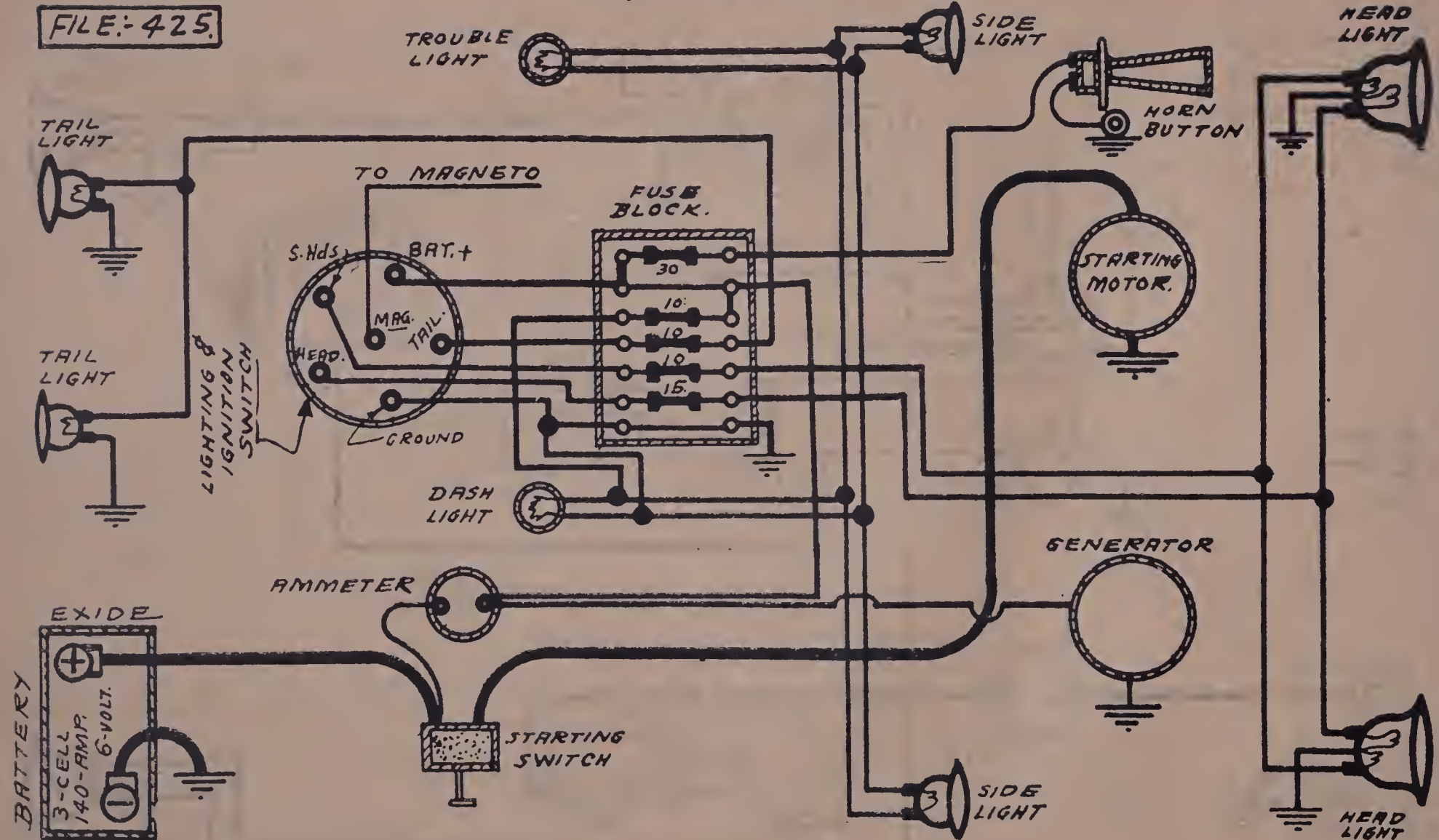
KENWORTHY

1920-1921

MODEL 6-55.

6-VOLT, BITUR SYSTEM.

FILE:-425.

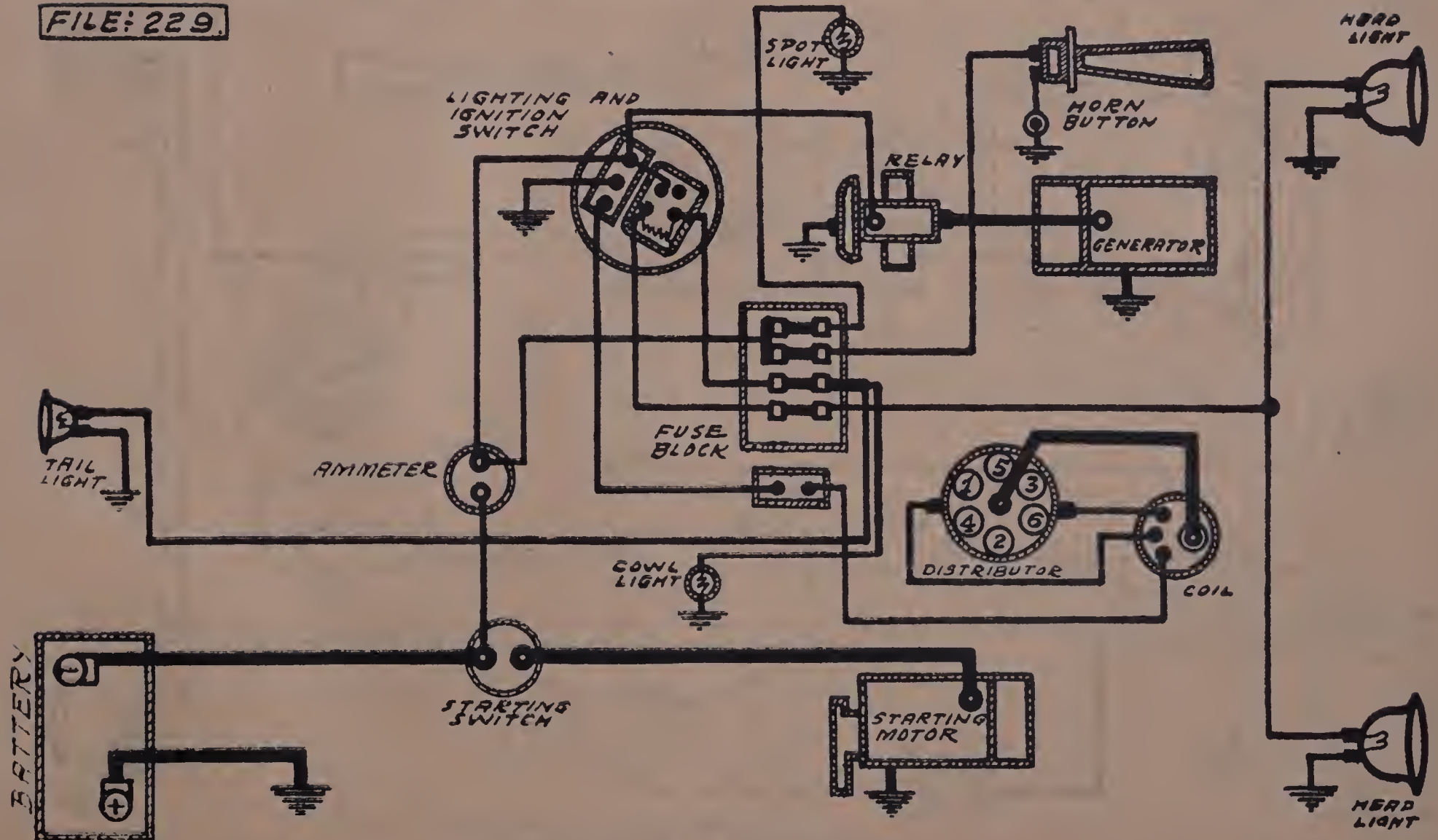


1921

KLINE KAR

MODEL 6-55-K.
6-VOLT, WESTINGHOUSE SYSTEM.

FILE: 229.



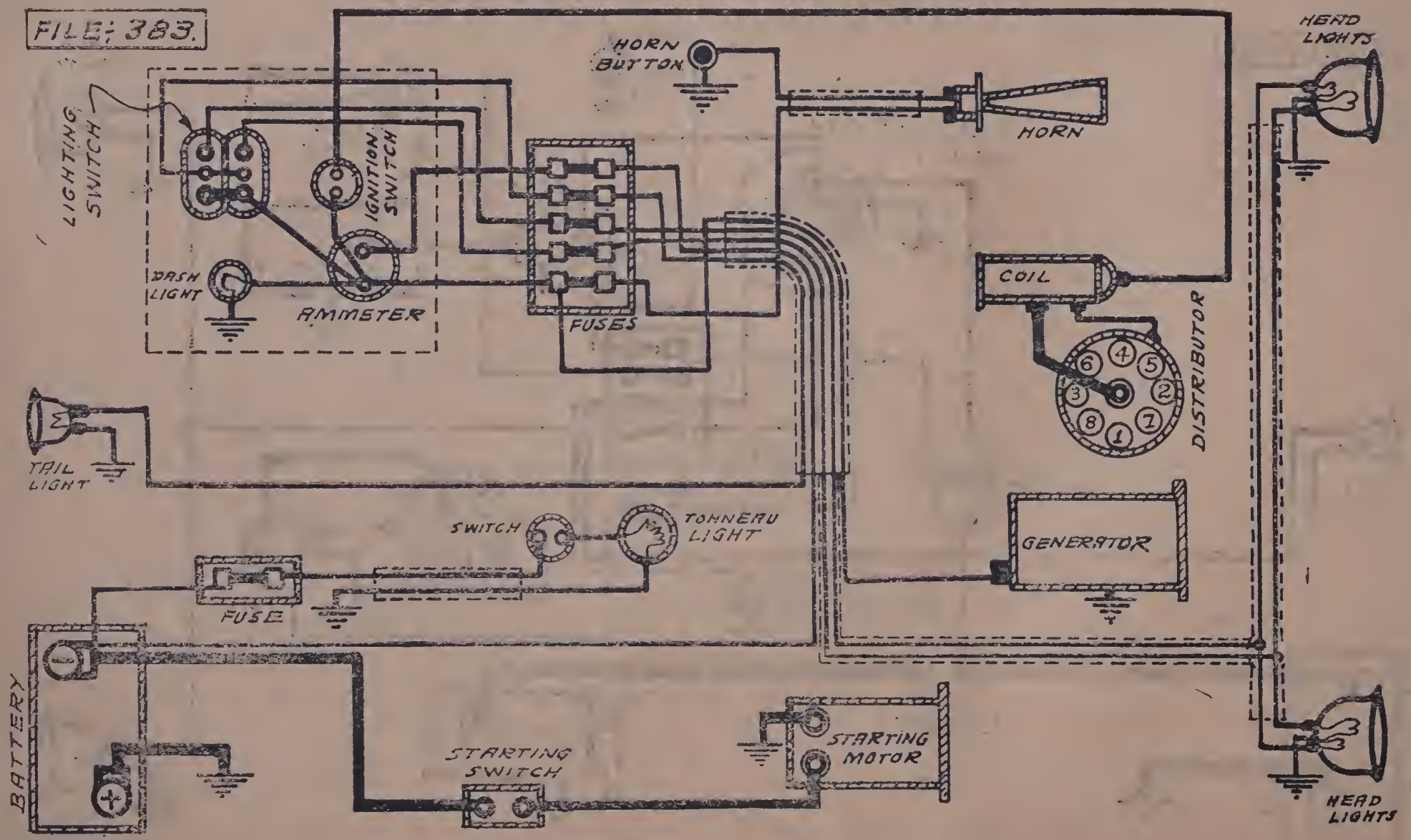
1921

KING

MODEL H.

6-VOLT, WESTINGHOUSE SYSTEM.

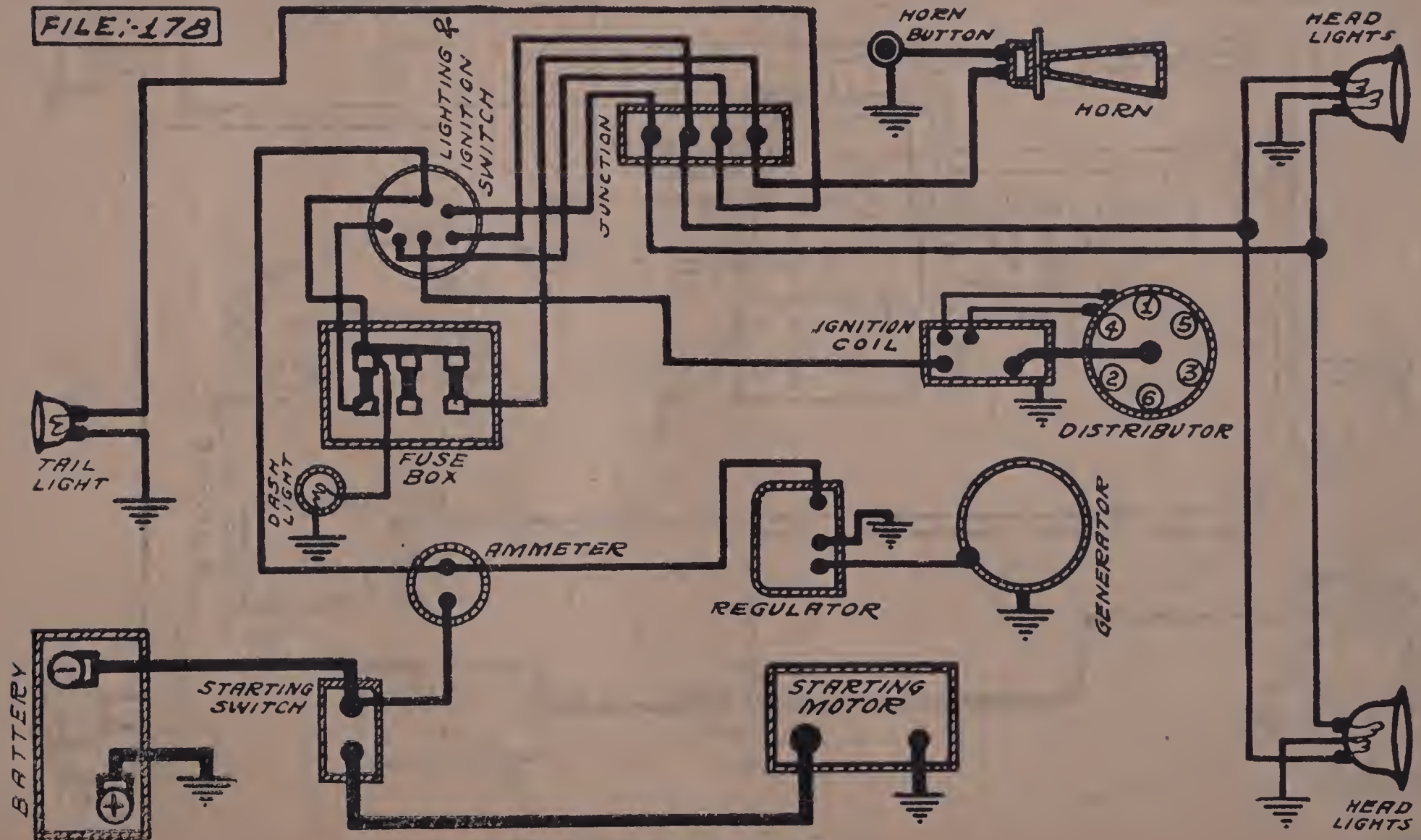
FILE: 383.



1921

KISSEL-KAR

CUSTOM BUILT SIX.
6-VOLT, REMY SYSTEM.



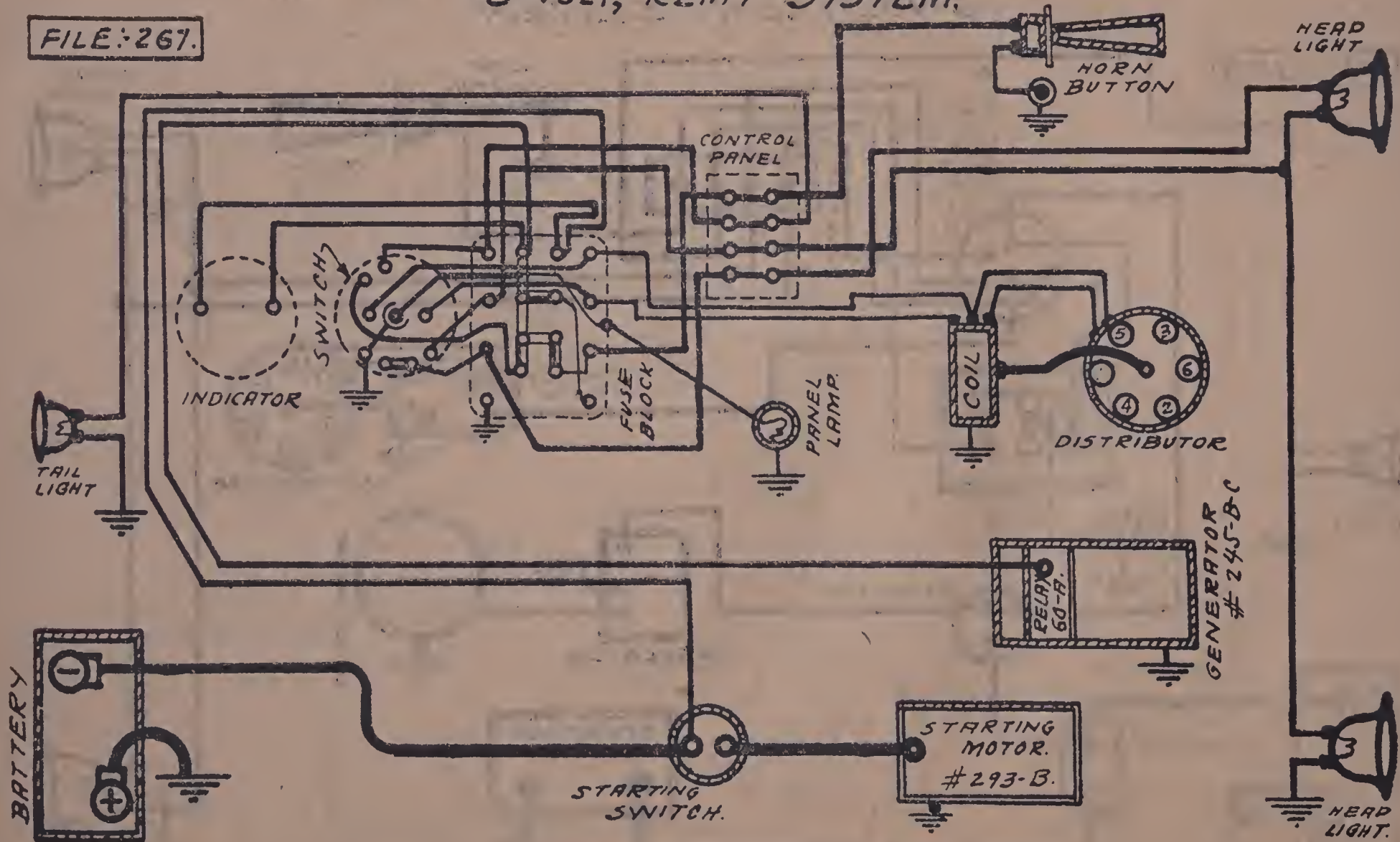
KISSEL

1916-1917.

100 POINT-SIX.

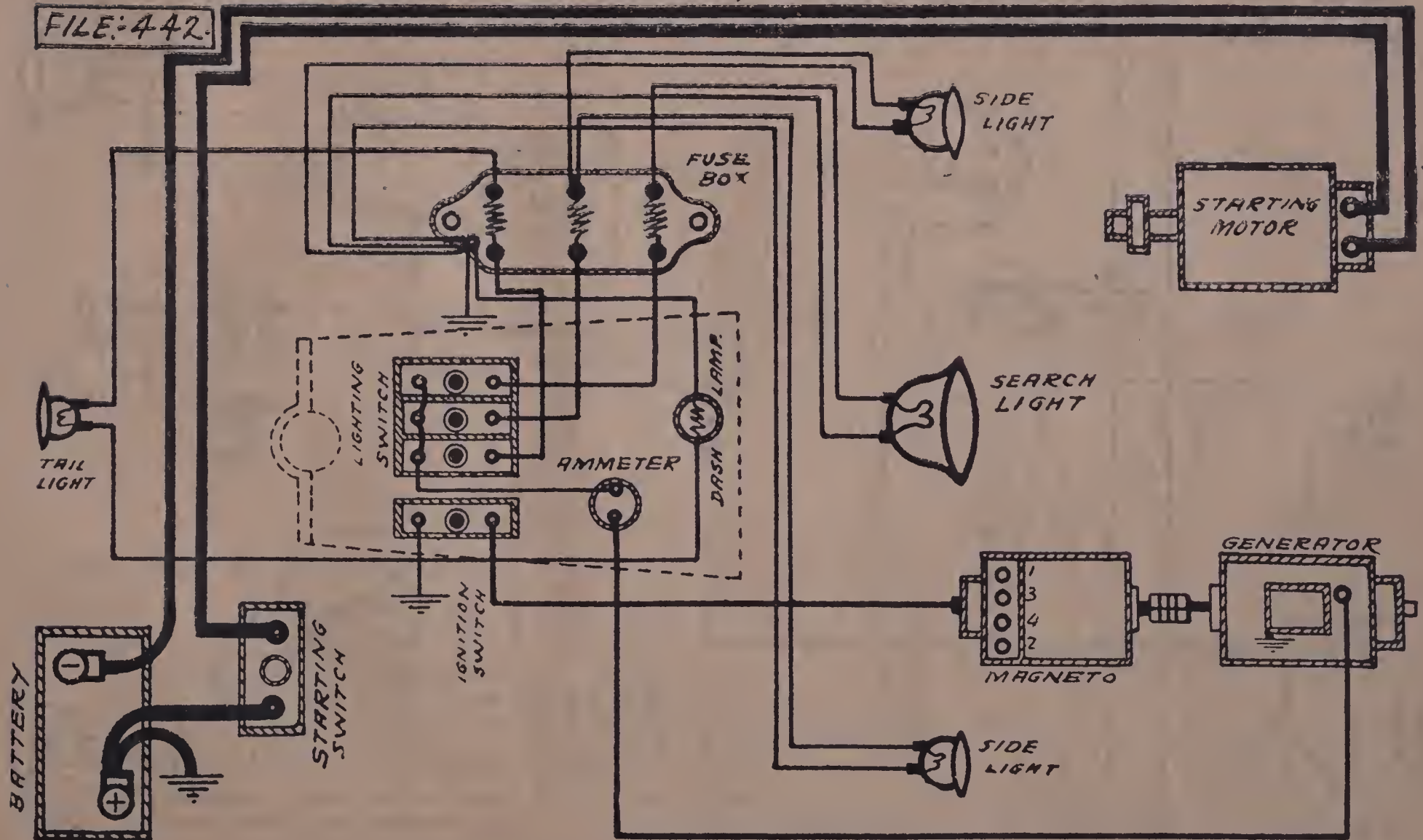
6-VOLT, REMY SYSTEM.

FILE:267.



KNOX TRACTOR

1914, 1915, 1916-1917, 1918, 1919, 1920, 1921.
6-VOLT, BITUR SYSTEM.



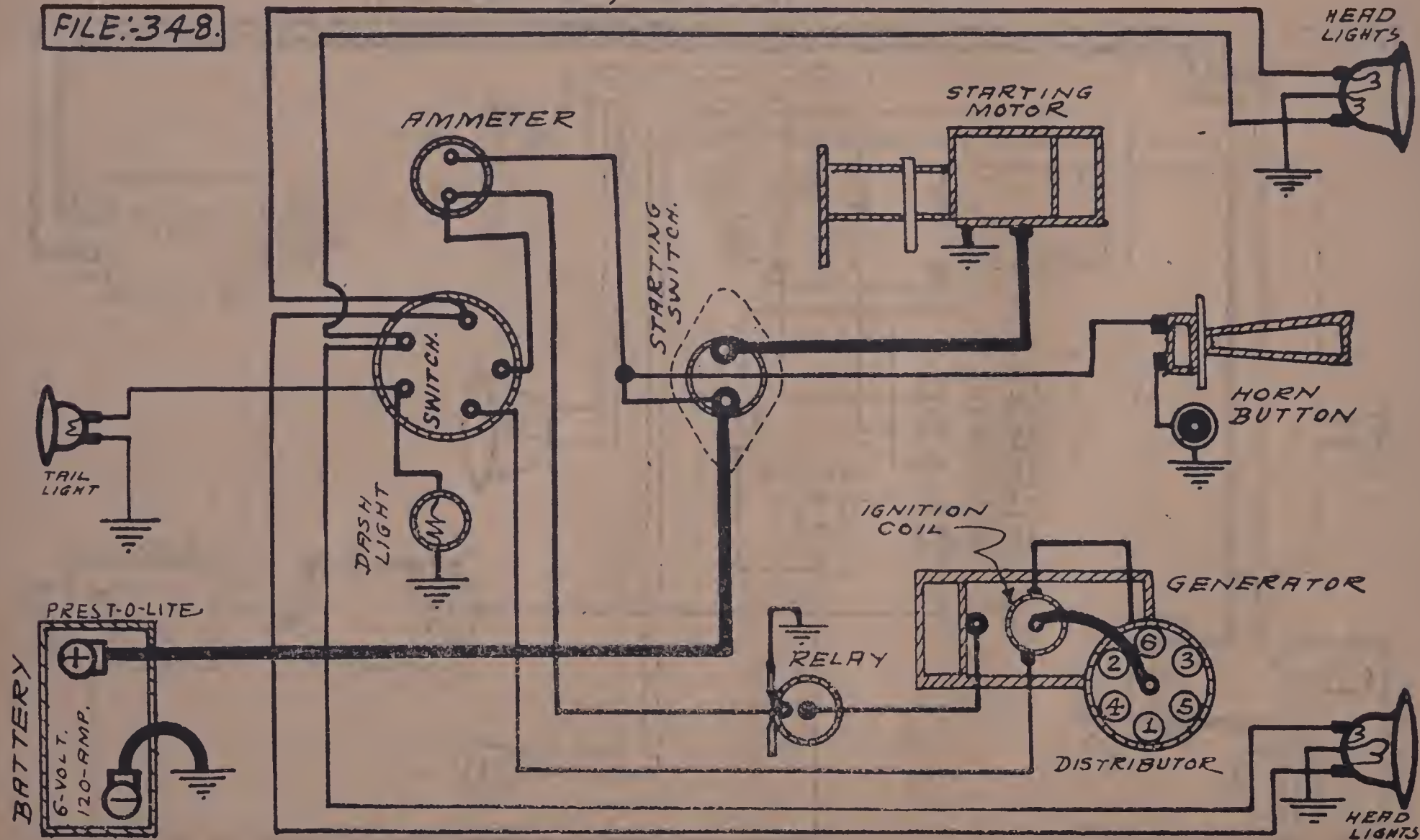
LIBERTY

1921

SIX.

6-VOLT, WAGNER SYSTEM.

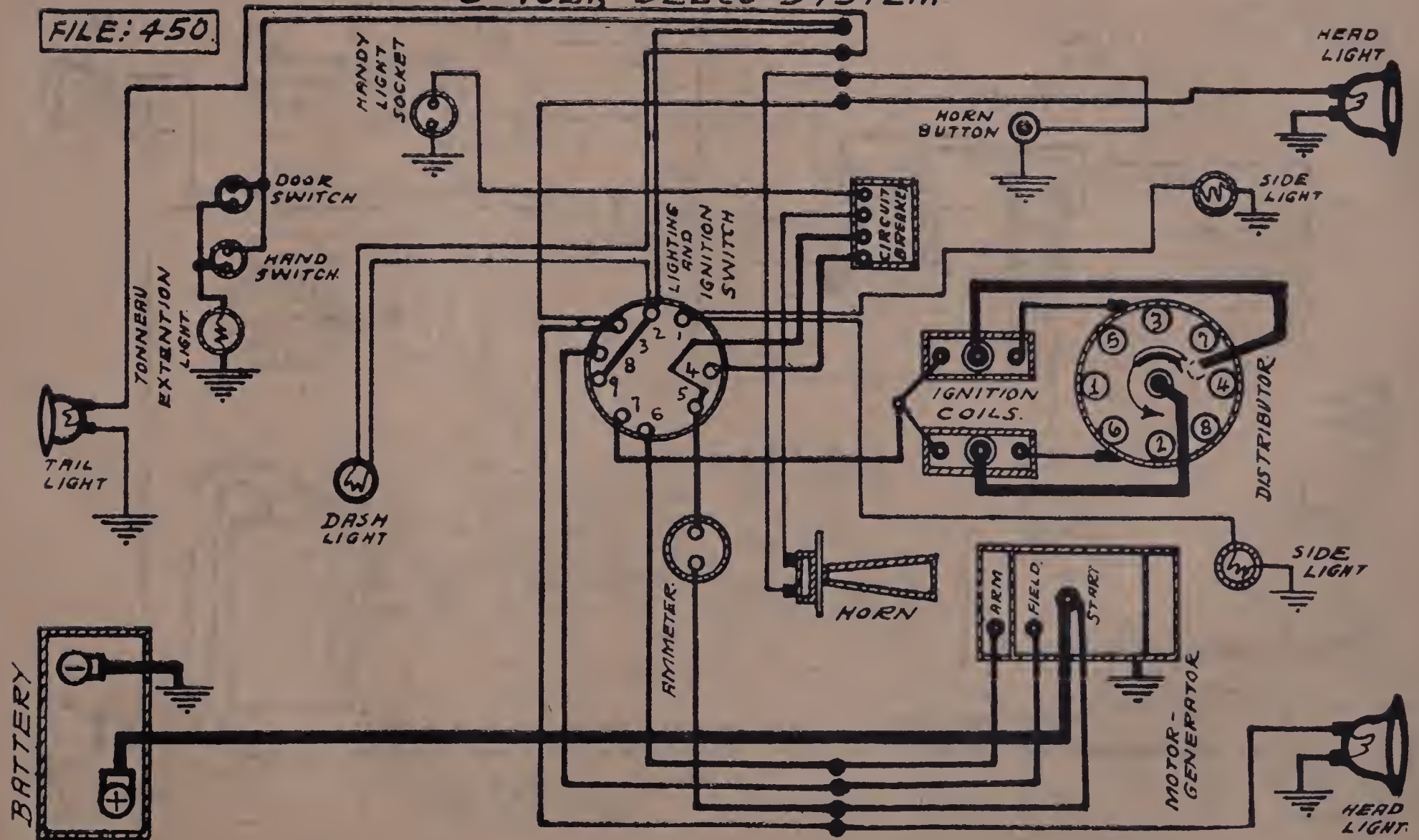
FILE:348.



LINCOLN

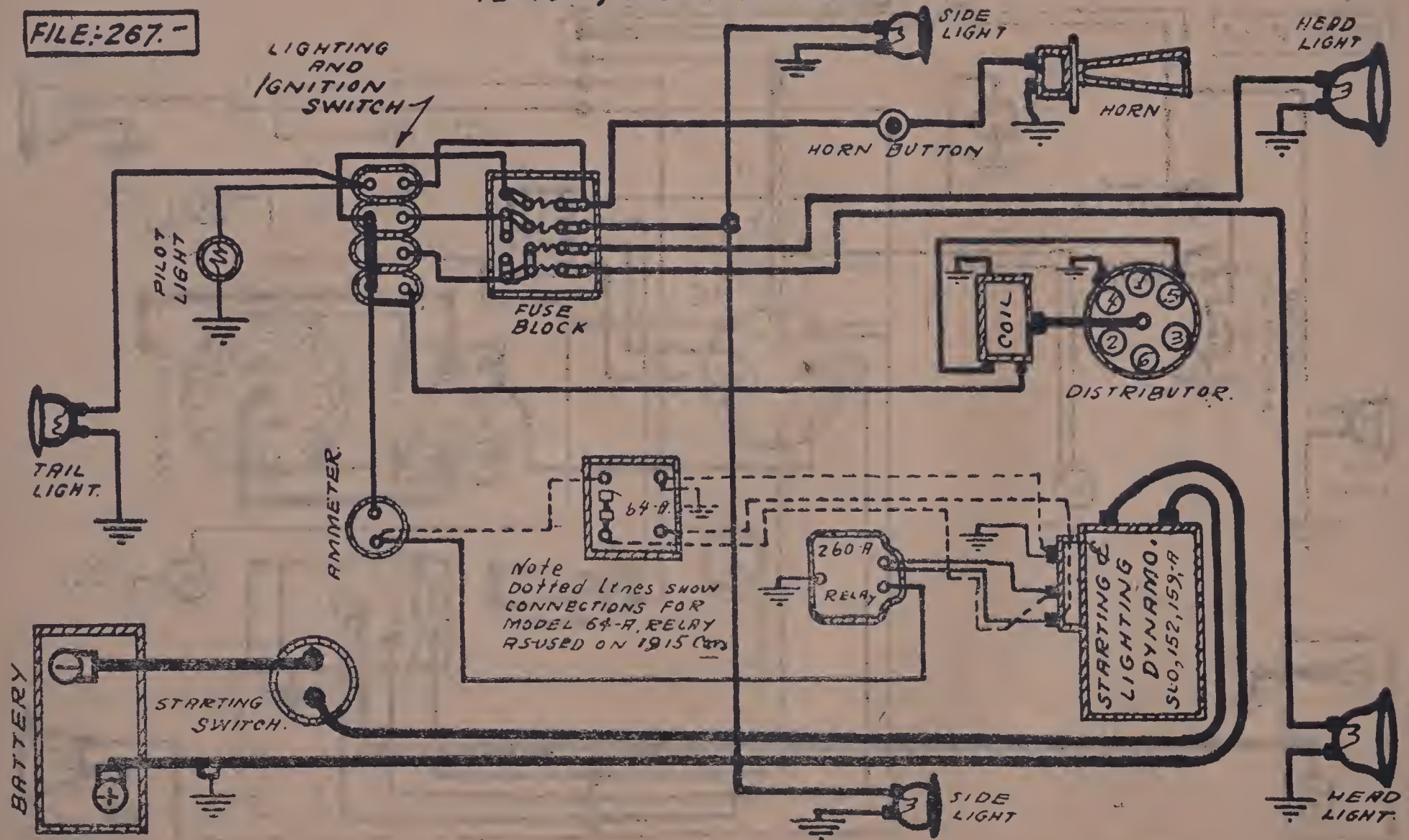
1920-1921 MODELS.

6-VOLT, DELCO SYSTEM



L.P.C. 1915-1916 MODELS. 12-VOLT, -REMY SYSTEM.

FILE: 267.-

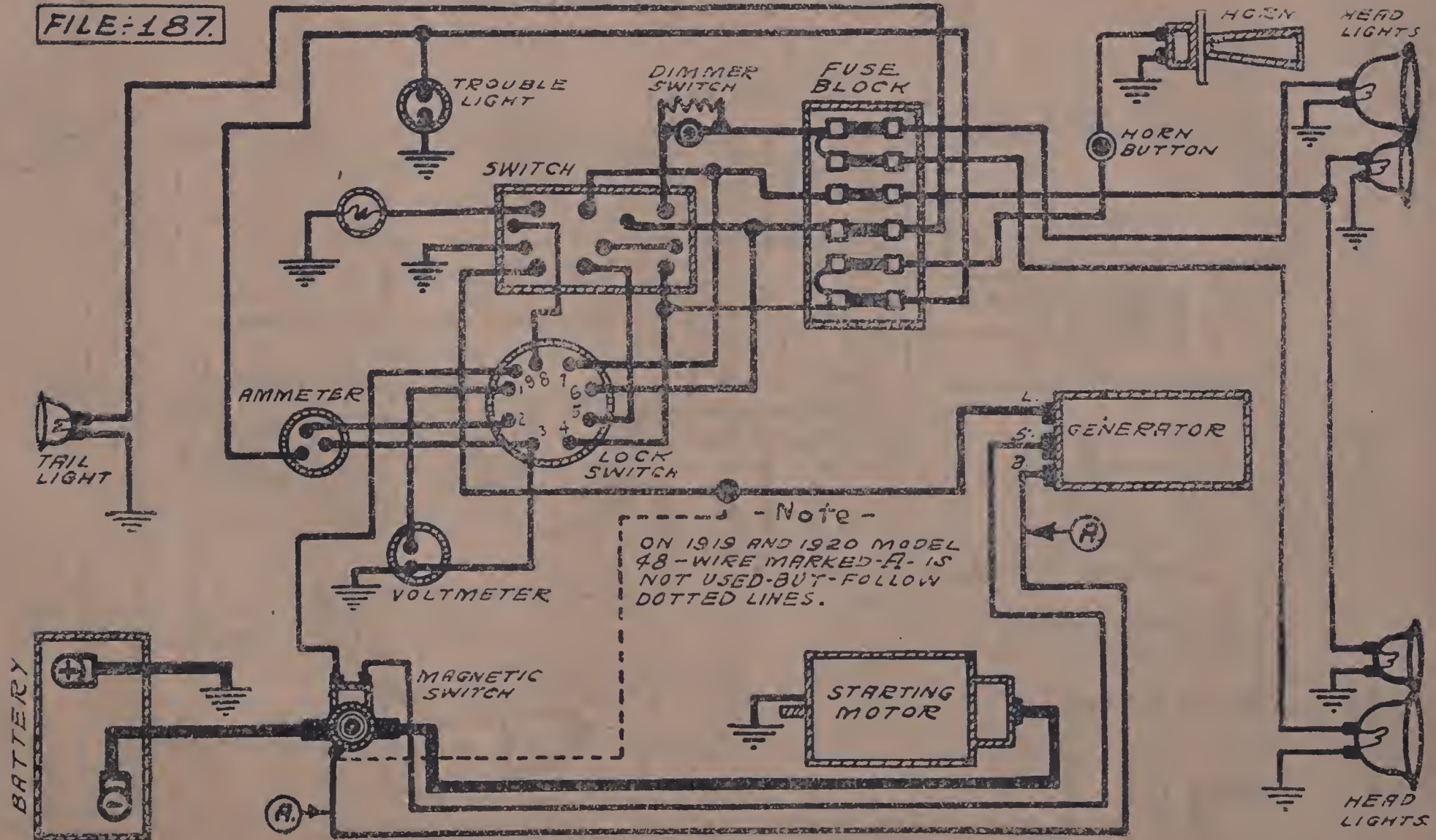


1921

LOCOMOBILE

MODEL 7-48.
6-VOLT, WESTINGHOUSE SYSTEM.

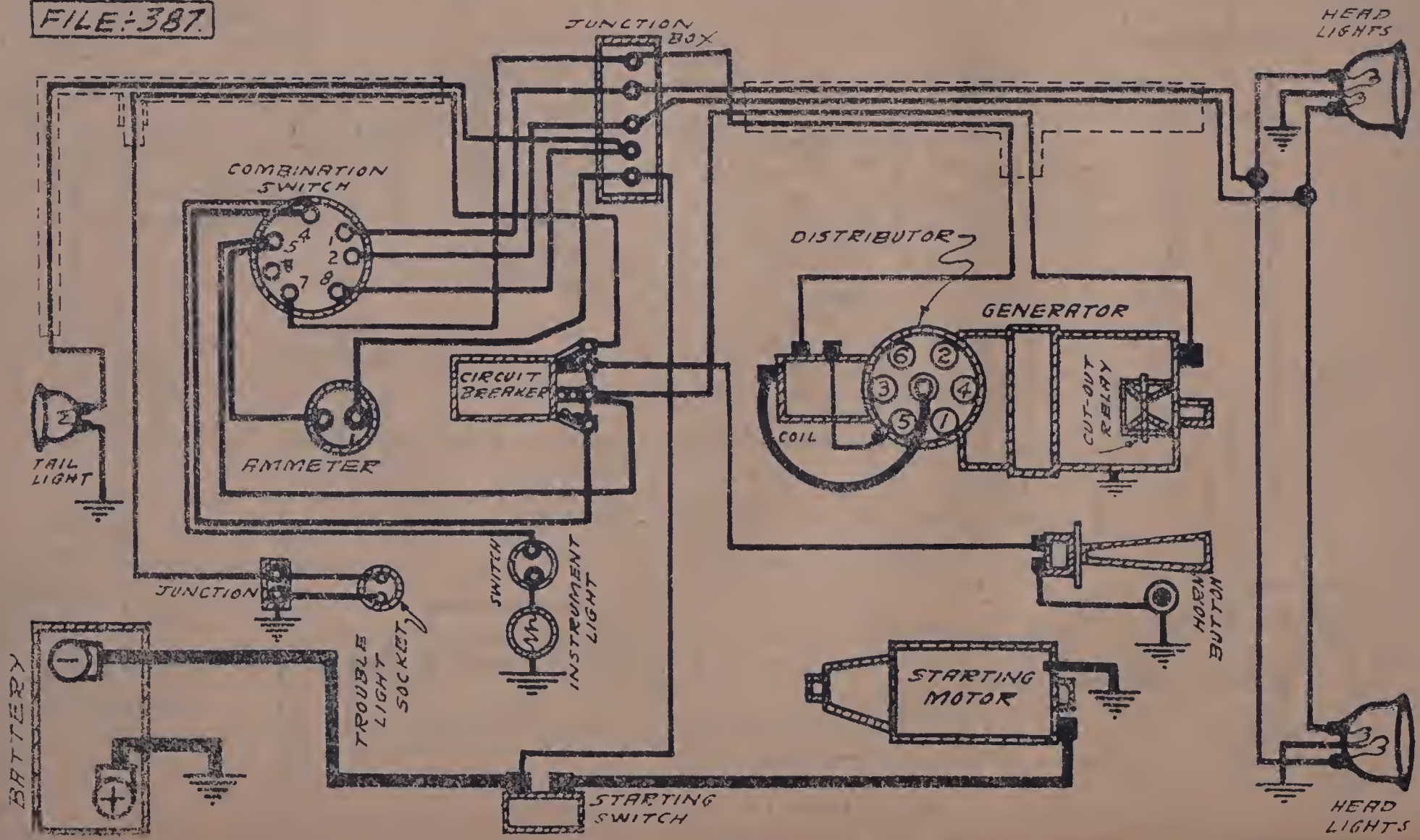
FILE-187.



MARMON

1921 MODEL -34.
6-VOLT, DELCO SYSTEM.

FILE:387.



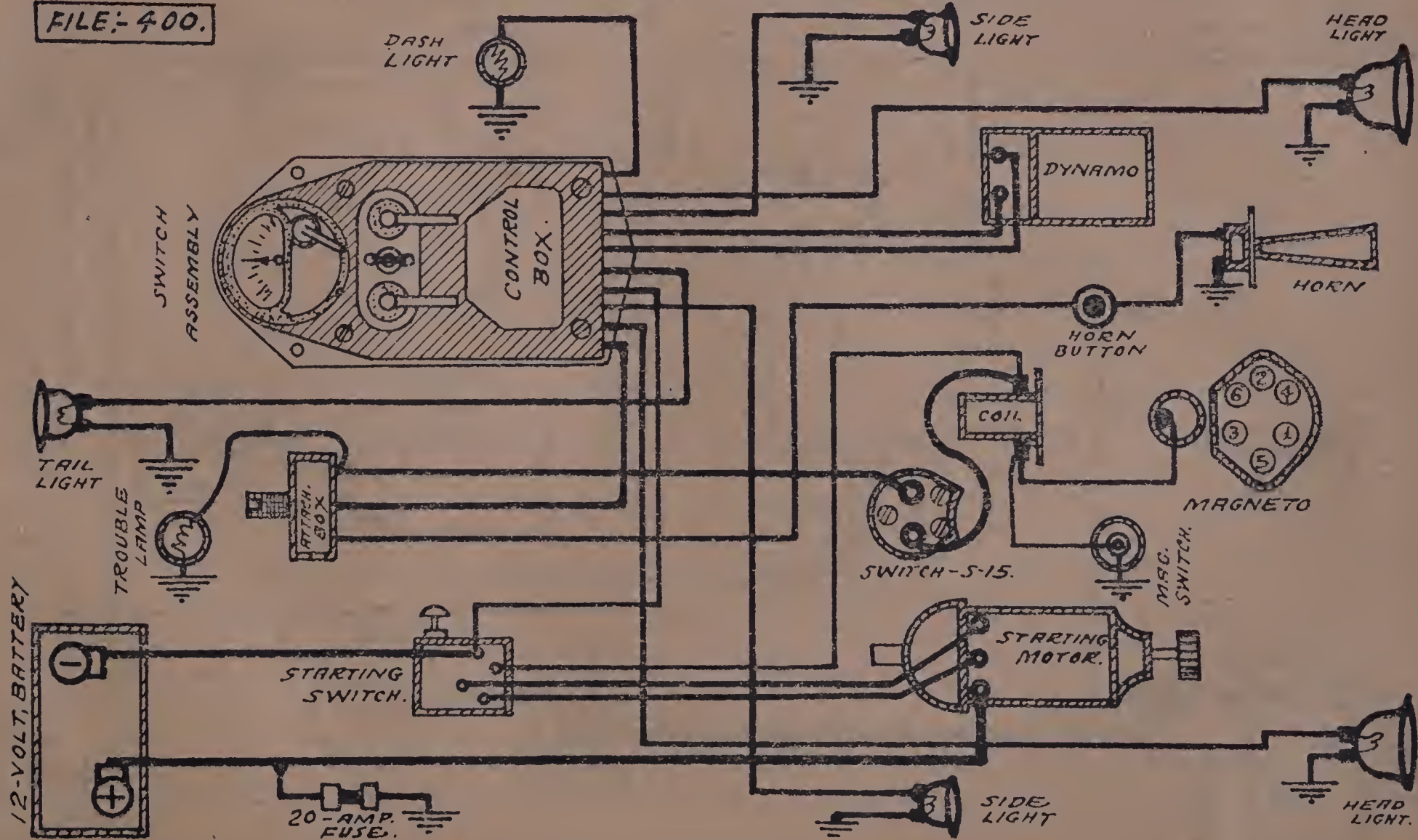
MARMON

1915-1916

MODEL 6-41.

12-VOLT, BOSCH SYSTEM.

FILE: 400.

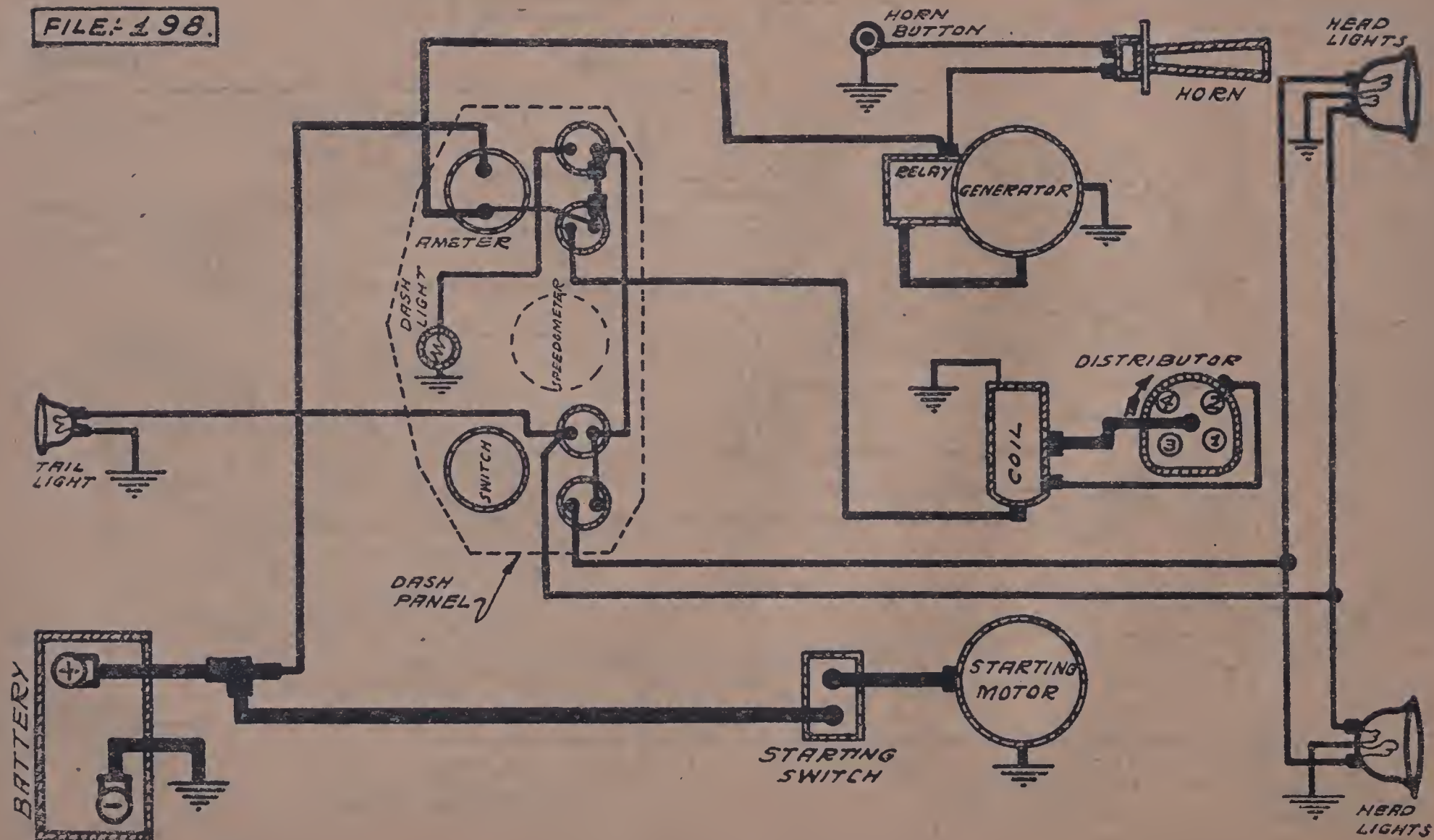


1921

MAXWELL

TWO-UNIT
12-VOLT, -SIMMS-HUFF SYSTEM.

FILE: 198.

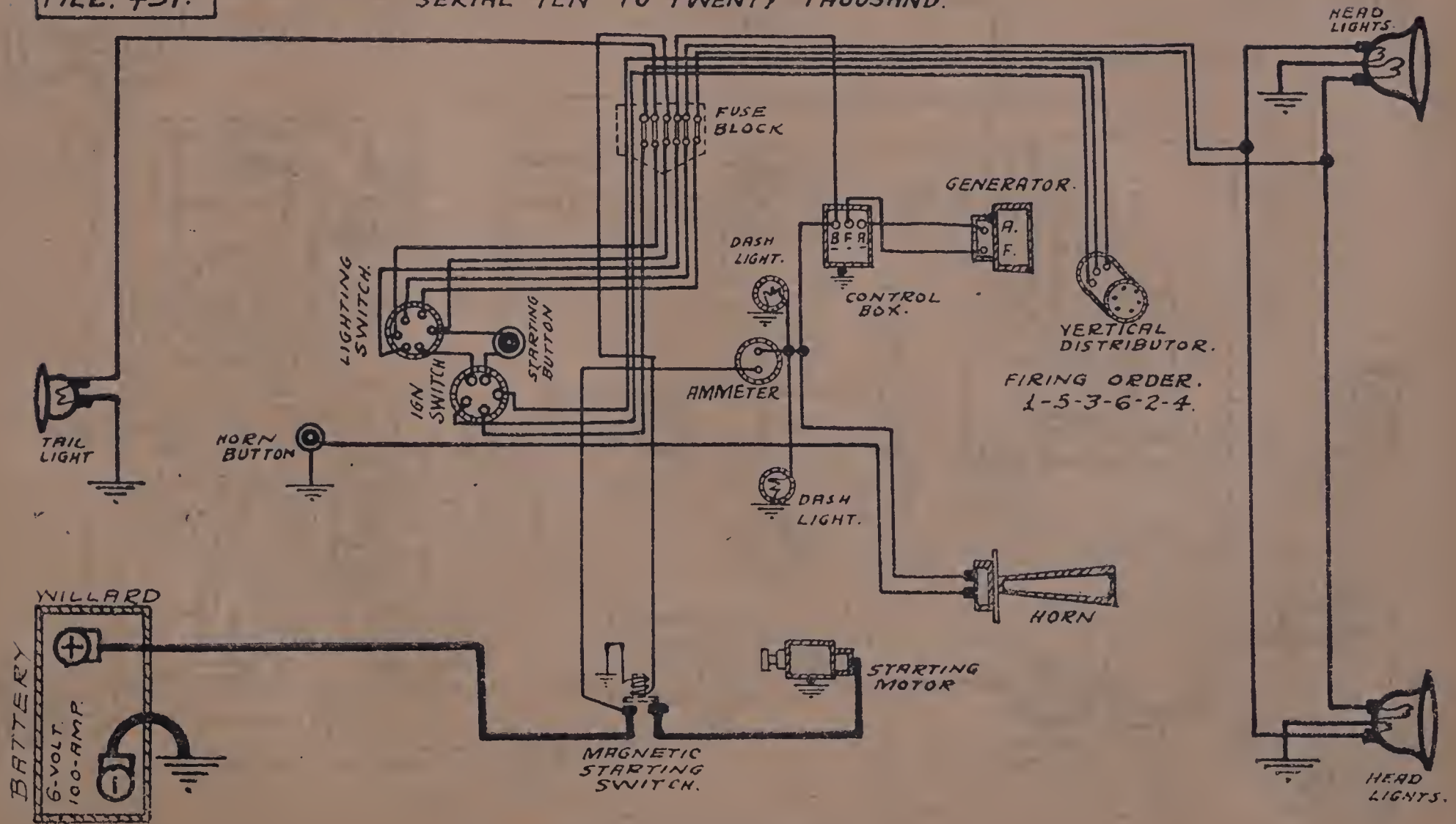


McFARLAN

1920-1921. SERIES X.
6-VOLT, WESTINGHOUSE SYSTEM.

FILE: 451.

SERIAL TEN TO TWENTY THOUSAND.



McFARLAN

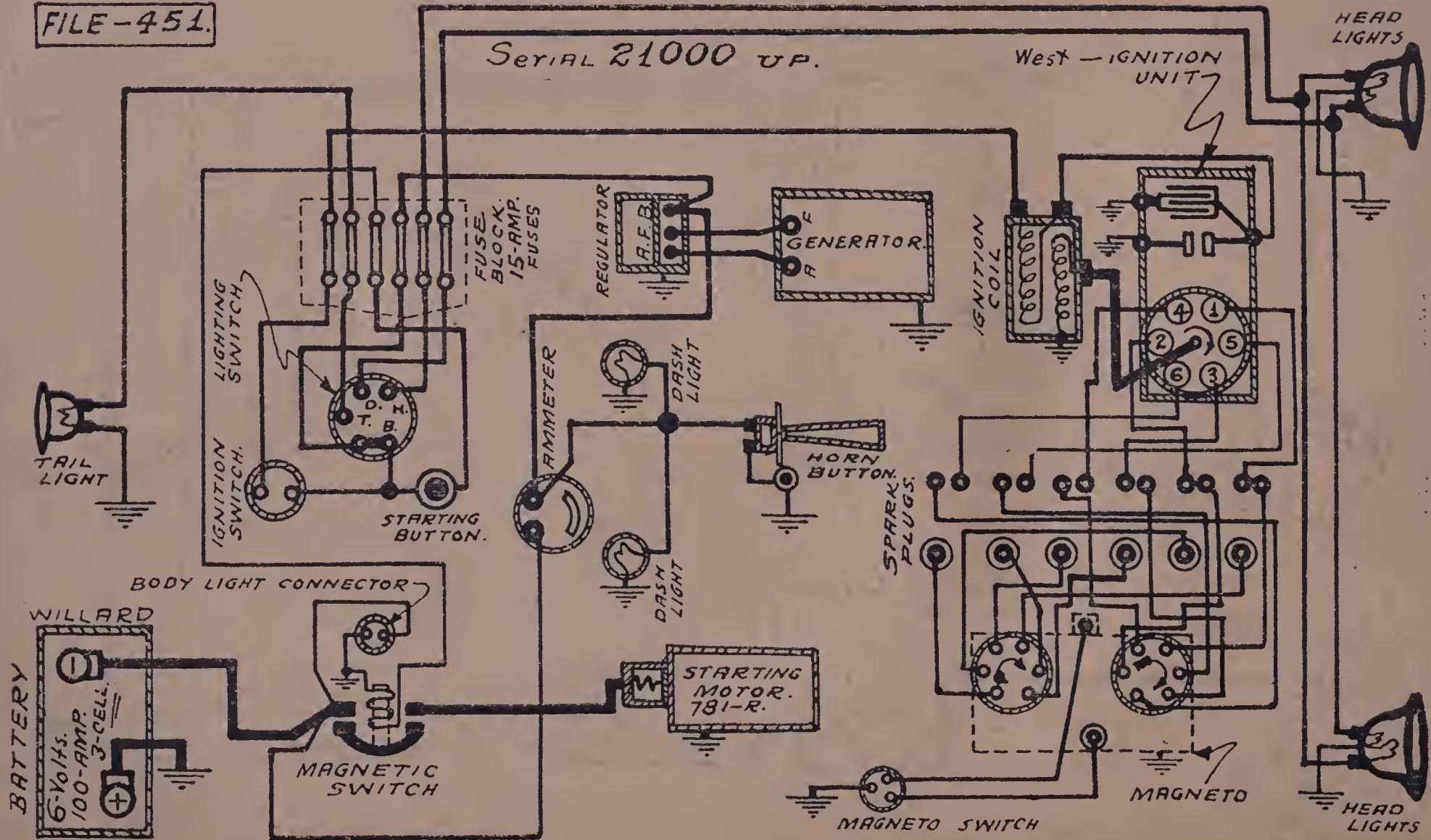
1921

SERIES T.V.

6-VOLT, WESTINGHOUSE SYSTEM.

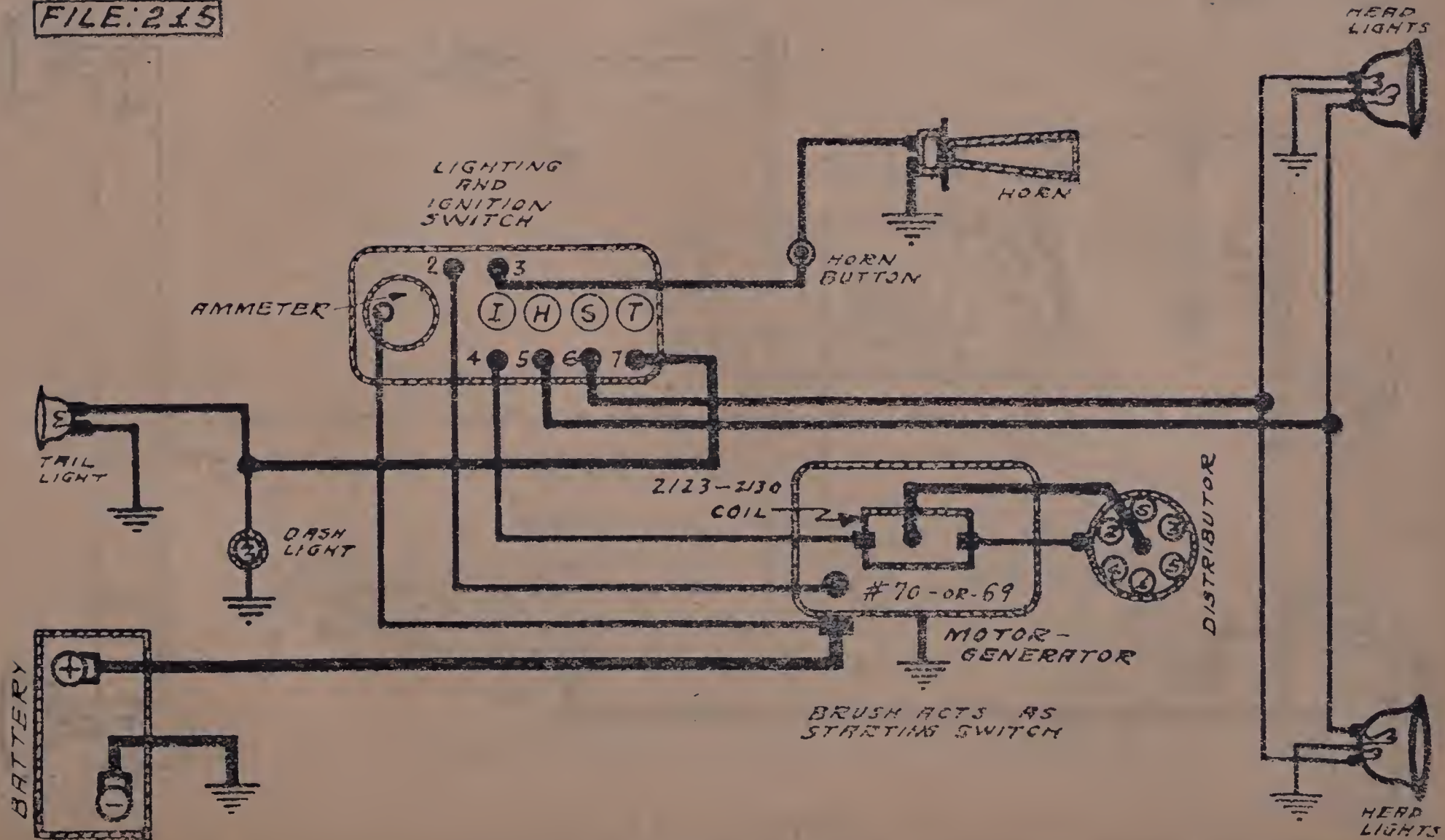
FILE-451.

Serial 21000 U.P.



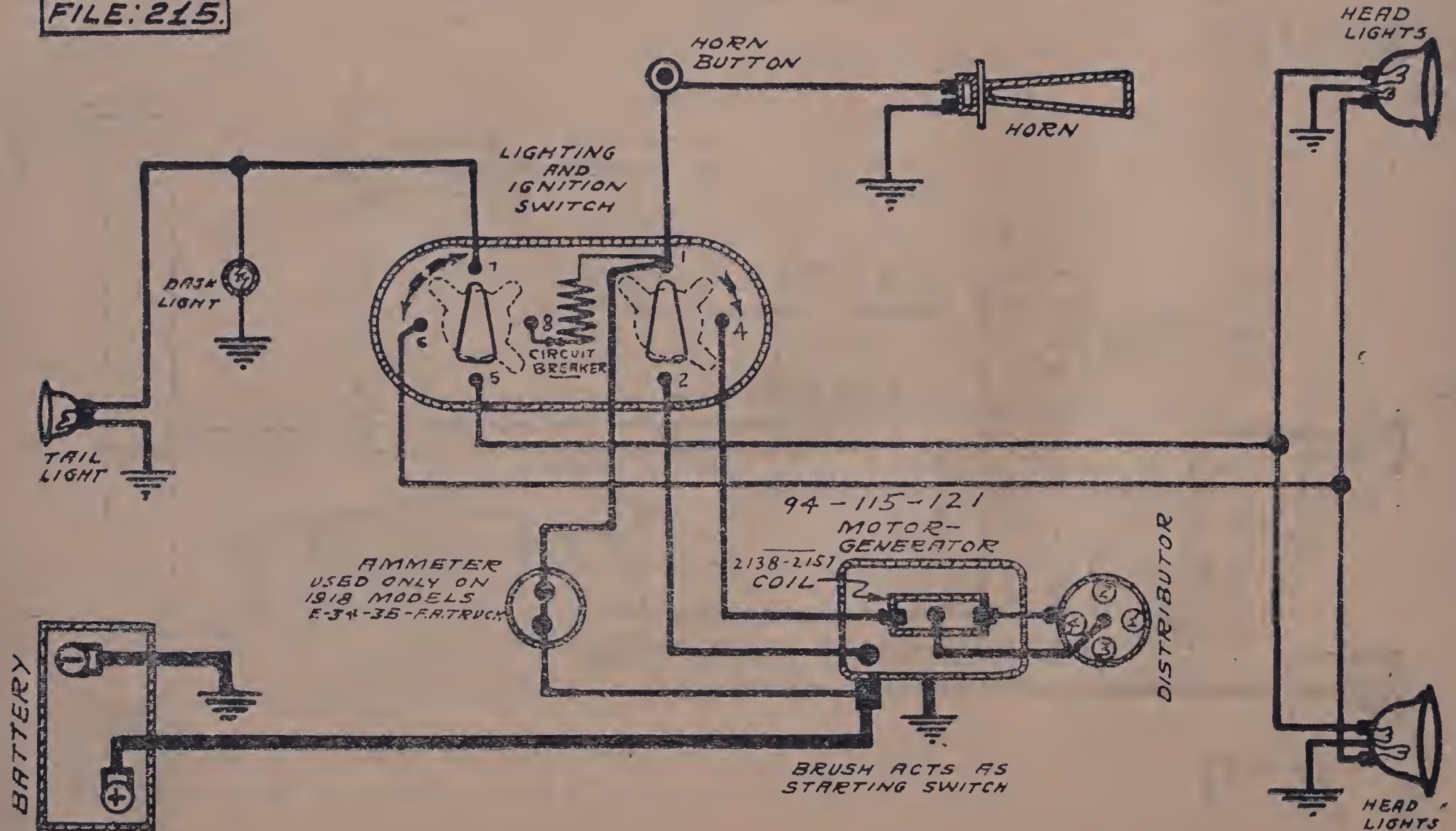
McLAUGHLIN MODEL D-34 6-VOLT, DELCO SYSTEM

FILE:215



MCLAUGHLIN MODEL D-45 6-VOLT, DELCO SYSTEM.

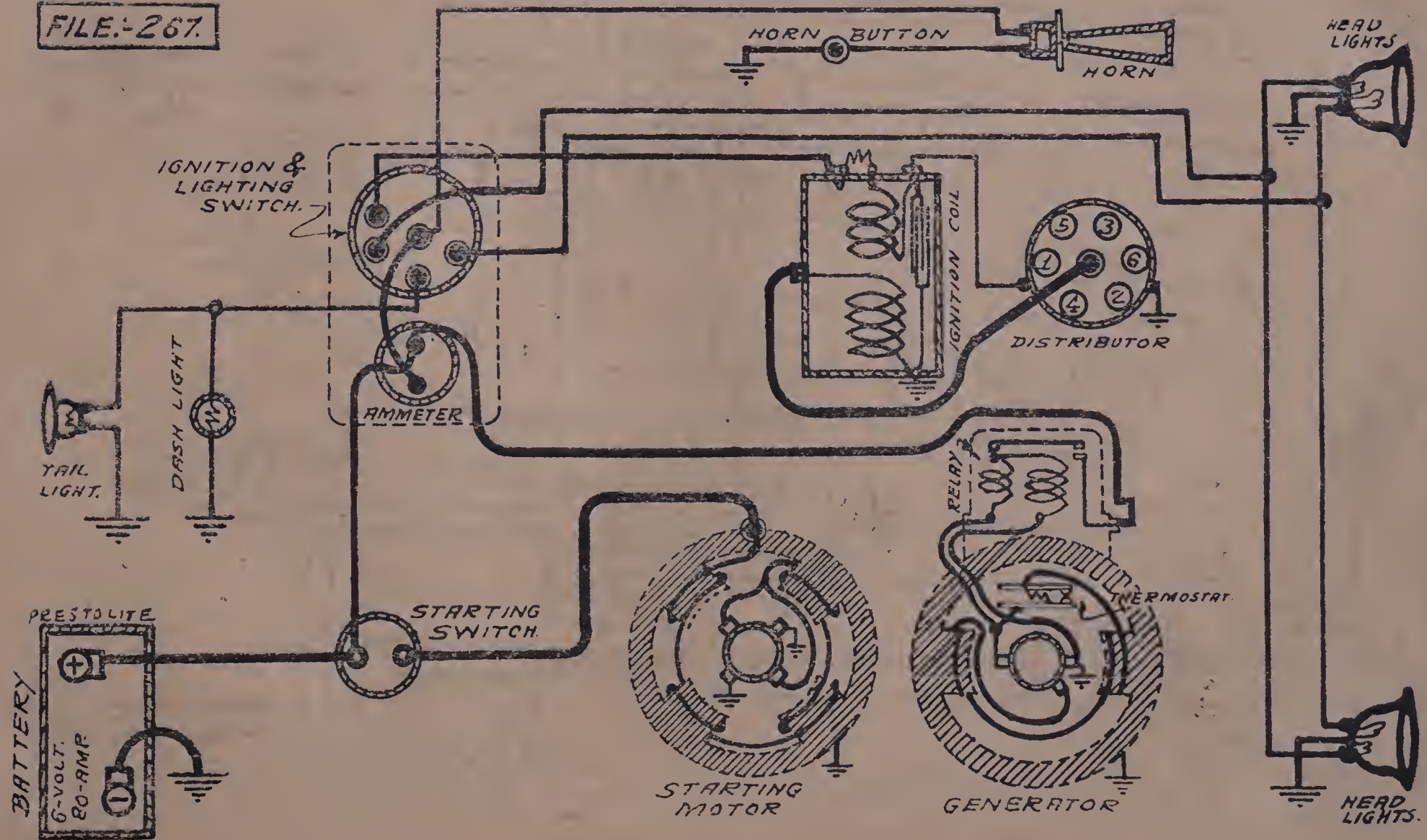
FILE: 215.



McLAUGHLIN

MODELS K-62, K-63.
6-VOLT, -REMY SYSTEM.

FILE:-267.

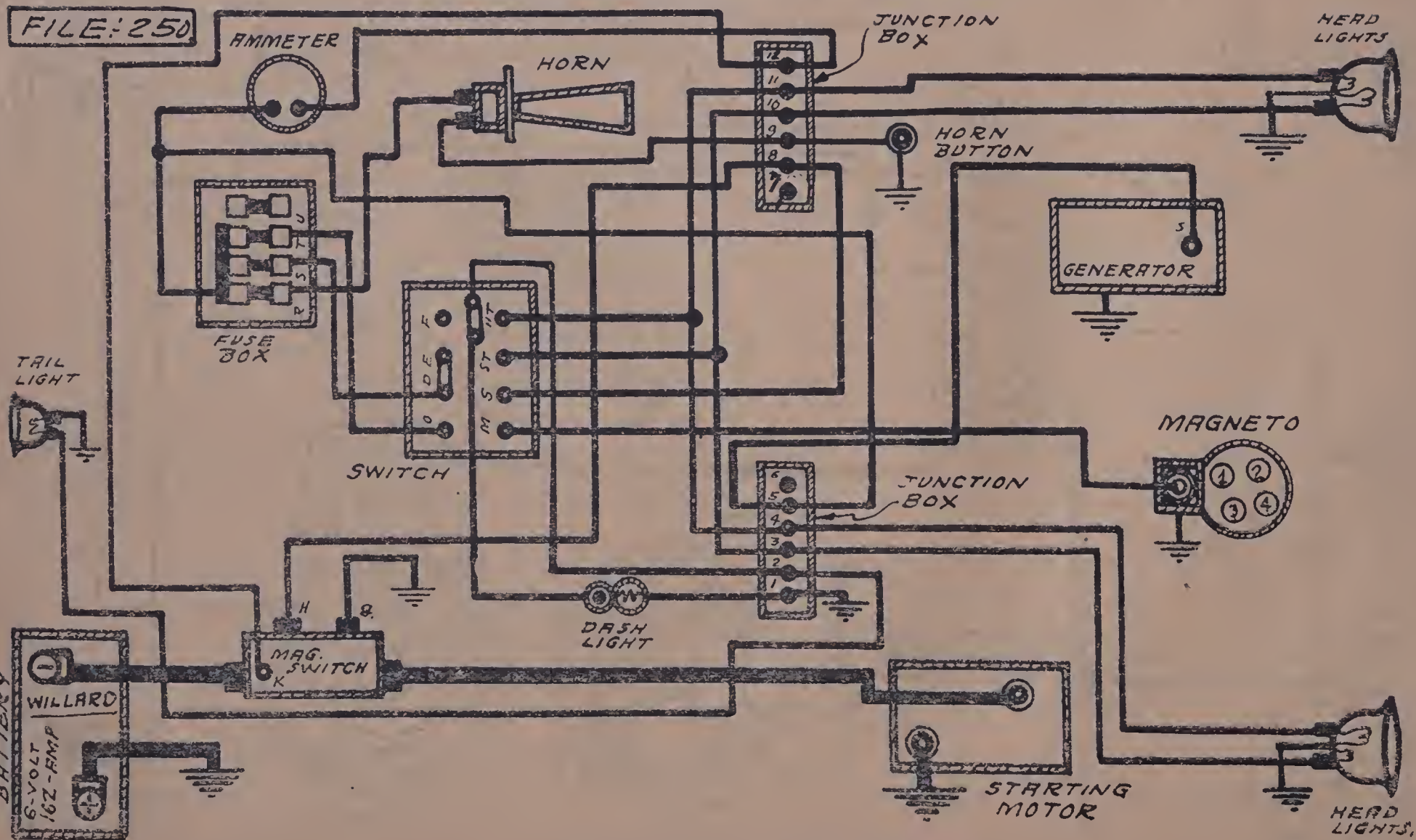


MERCER

1920-1921

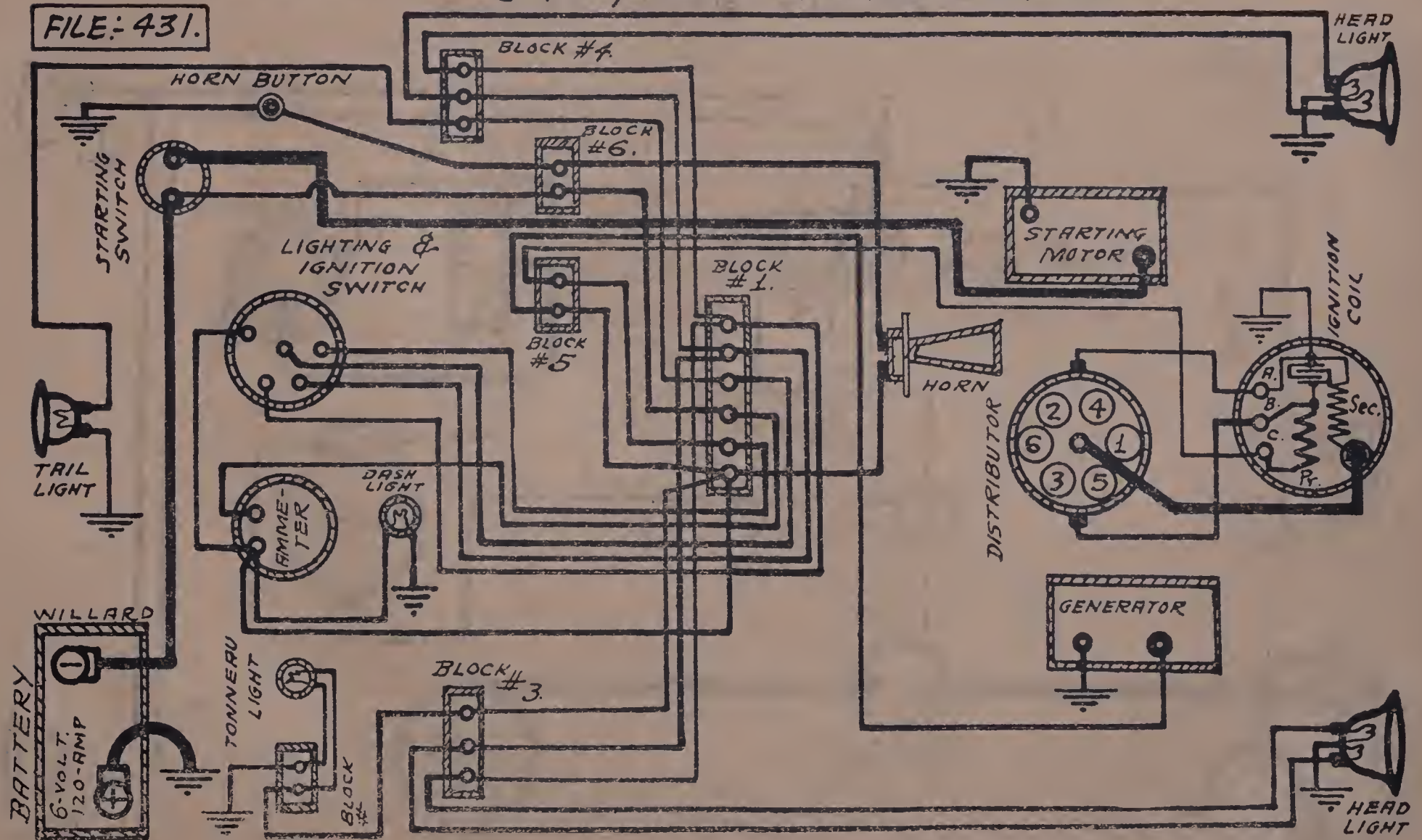
SERIES-5.

6-VOLT, WESTINGHOUSE SYSTEM.



METZ

1920-1921 MASTER SIX
6-VOLT, WESTINGHOUSE SYSTEM.



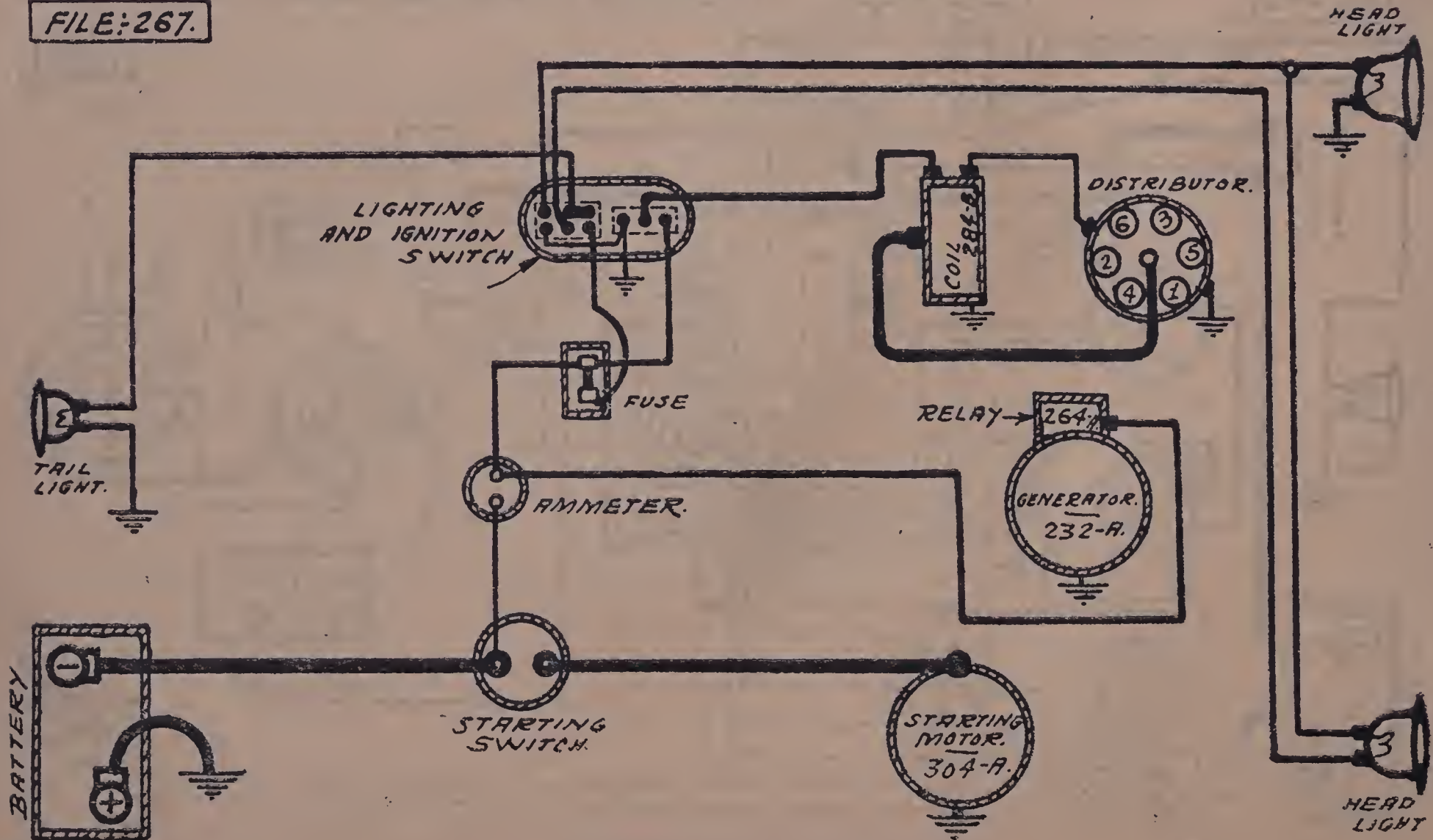
MITCHELL

1917-1918-1919

MODELS C-42, D-40, E-40, E-42.

6-VOLT, -REMY SYSTEM.

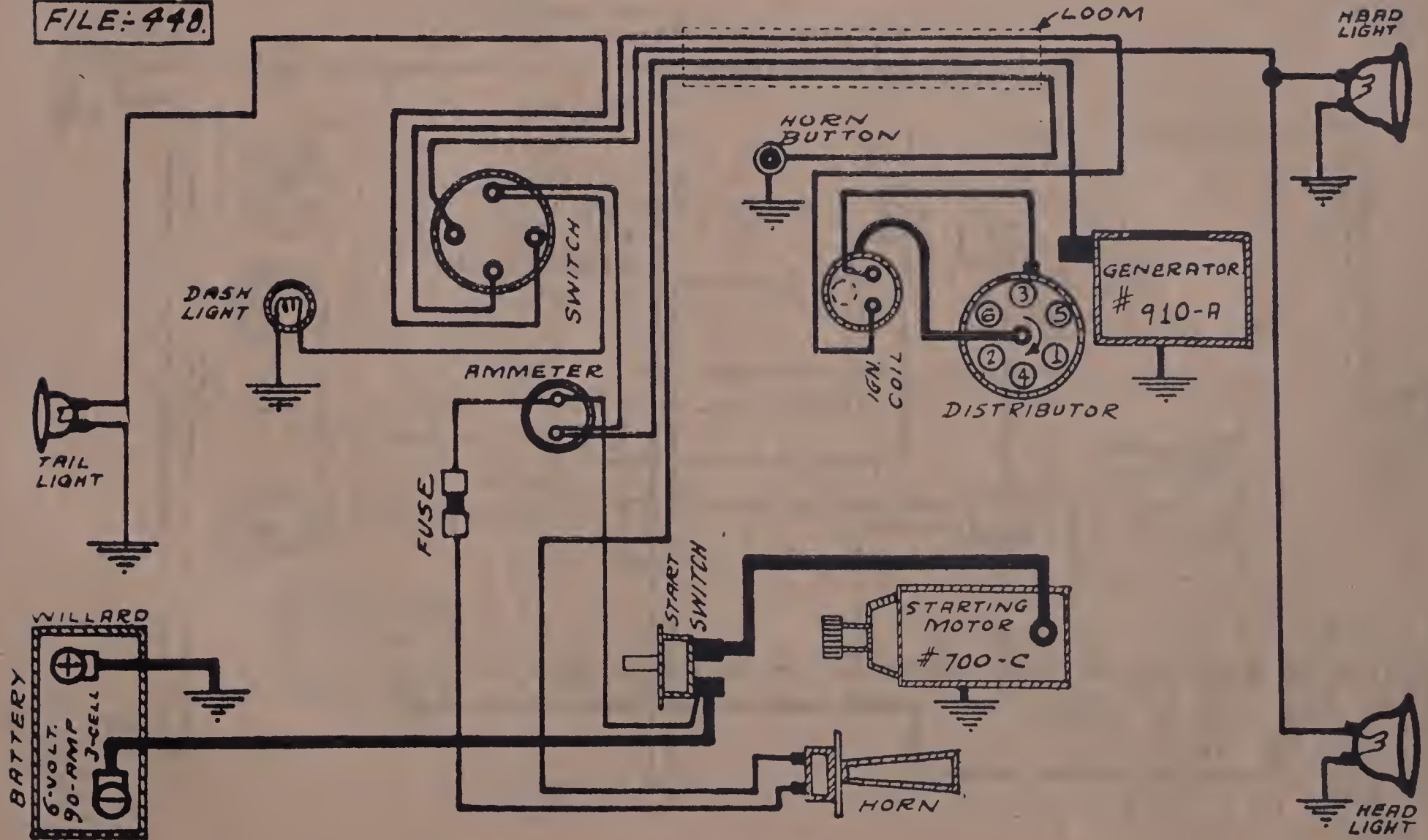
FILE: 267.



MITCHELL

1920-1921 MODEL-F-40
6-VOLT, REMY SYSTEM.

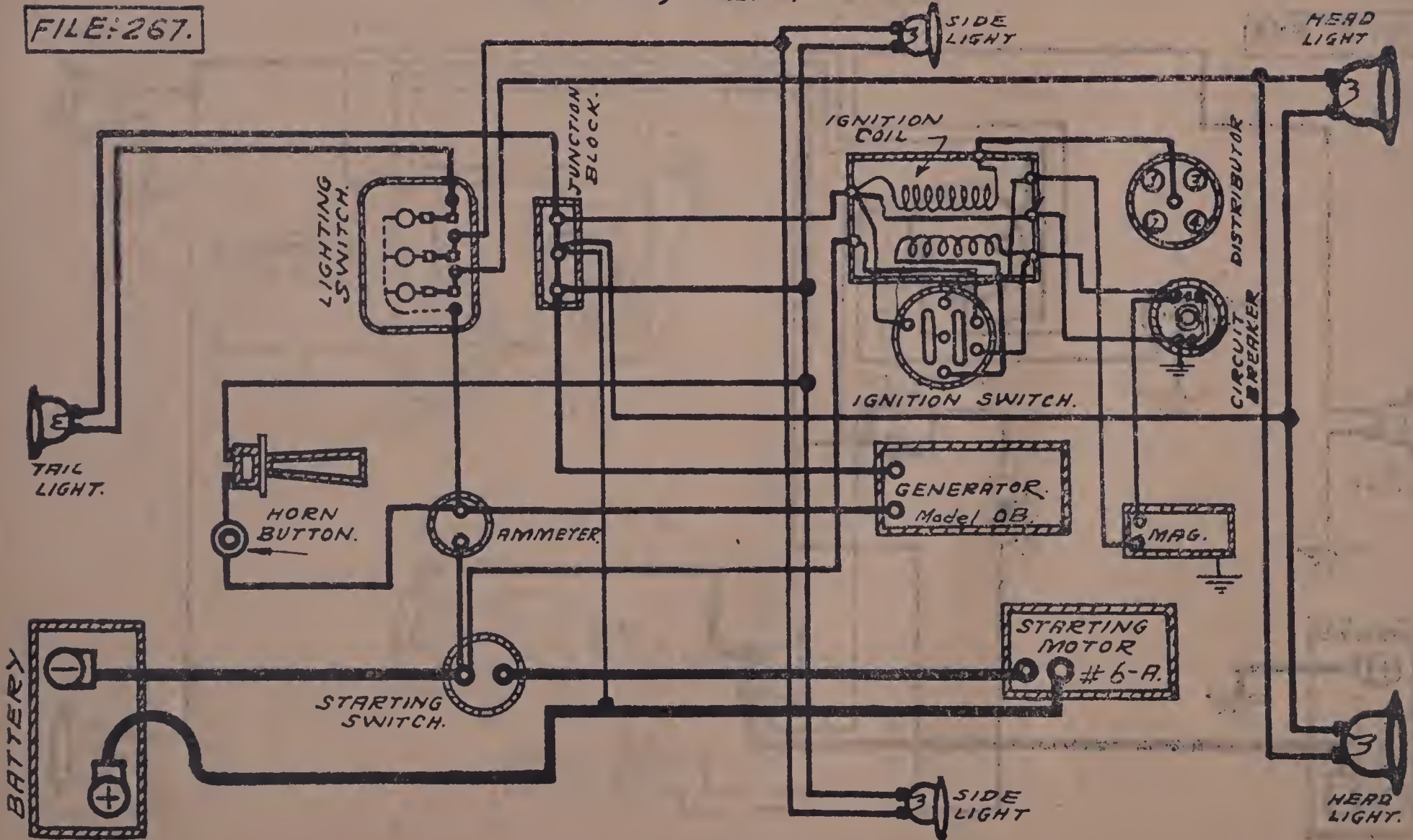
FILE: 440.



MITCHELL-LEWIS.

1914-1915 MODELS
6-VOLT, REMY SYSTEM.

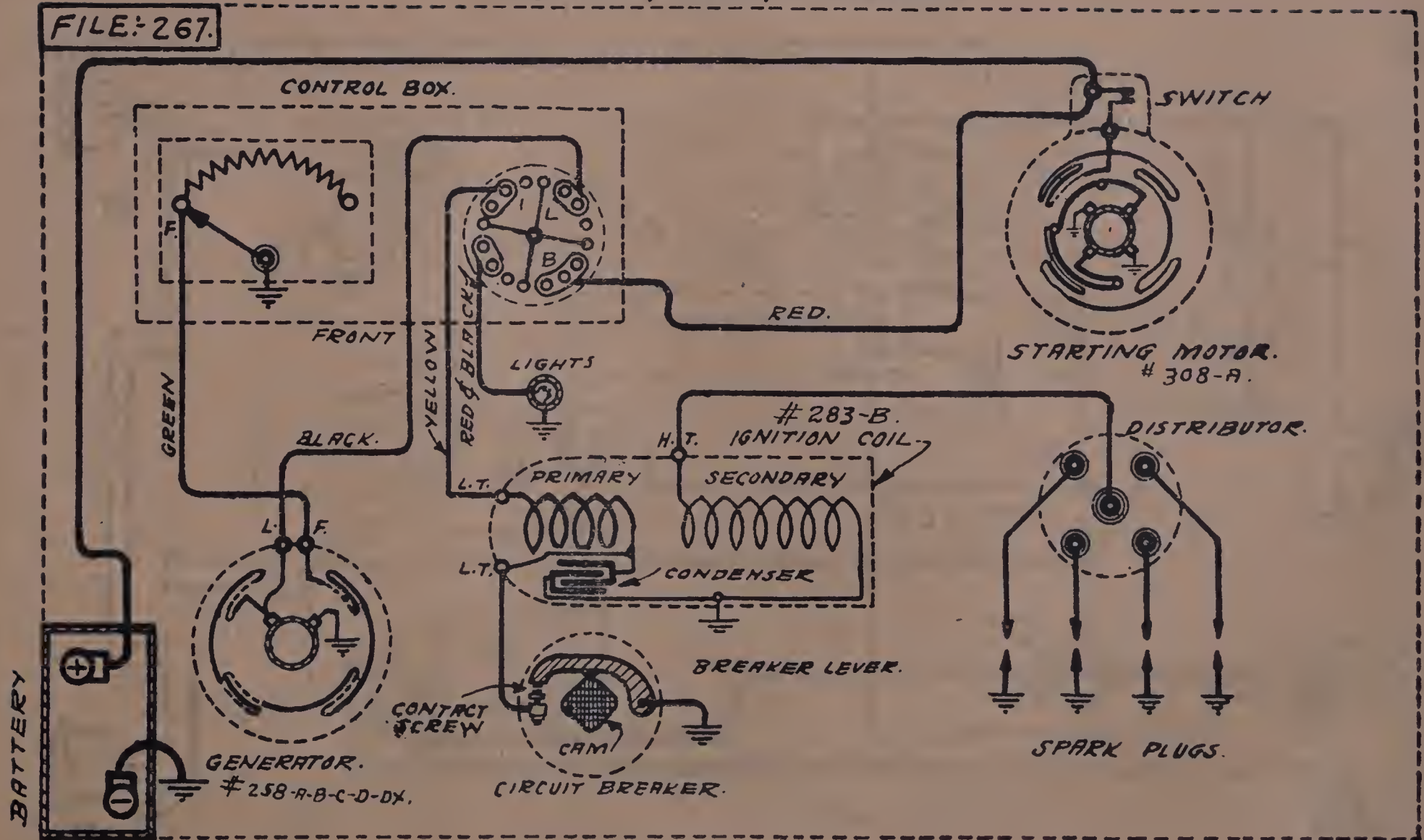
FILE:267.



MOLINE TRACTOR.

MODEL - D.

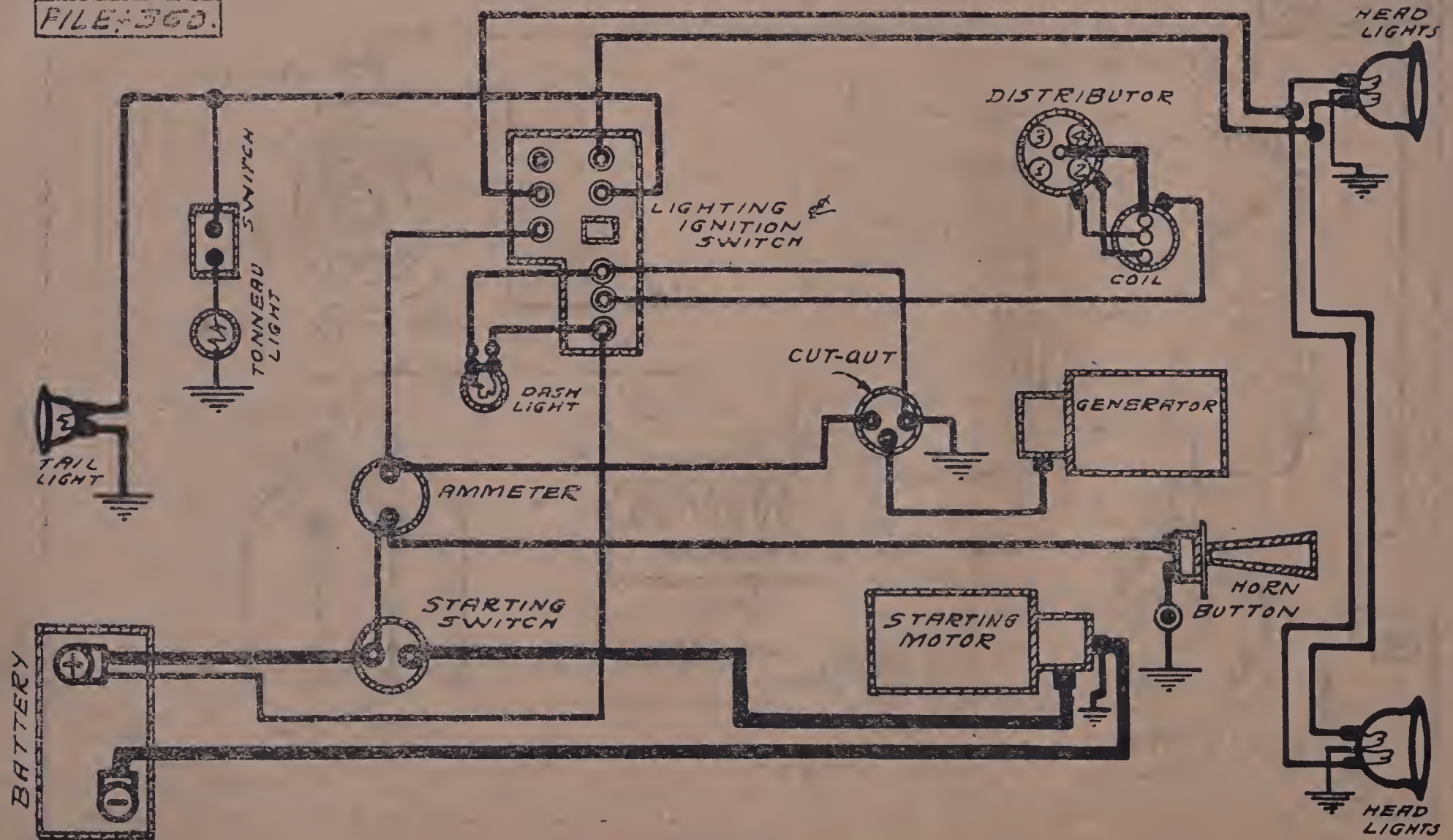
6-VOLT, -REMY SYSTEM.



MONROE

1920 -1921 MODEL S-9
6-VOLT, AUTOLITE SYSTEM.

FILE: 563.



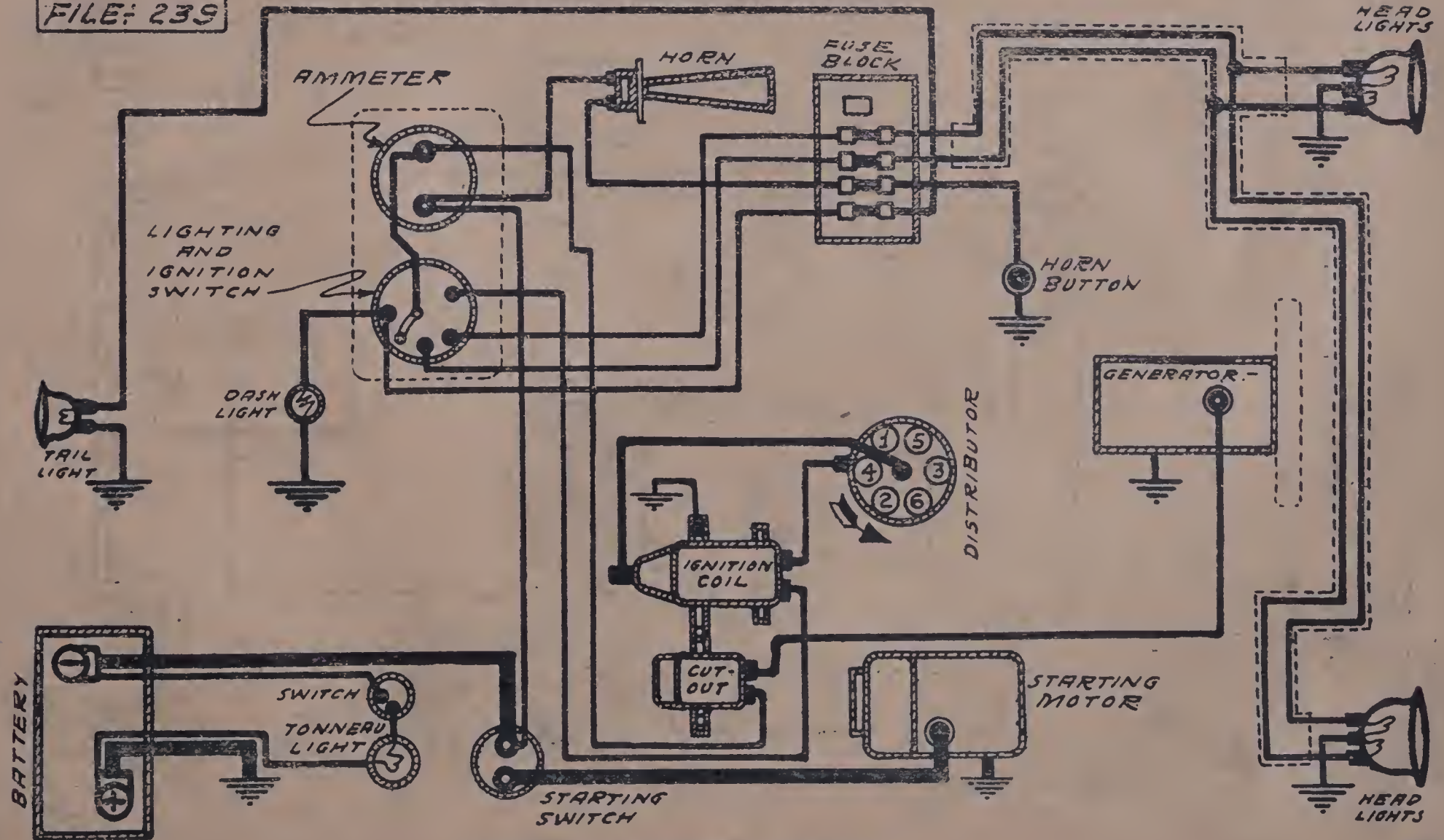
1921

NASH

MODEL SIX.

6-VOLT-WAGNER SYSTEM.

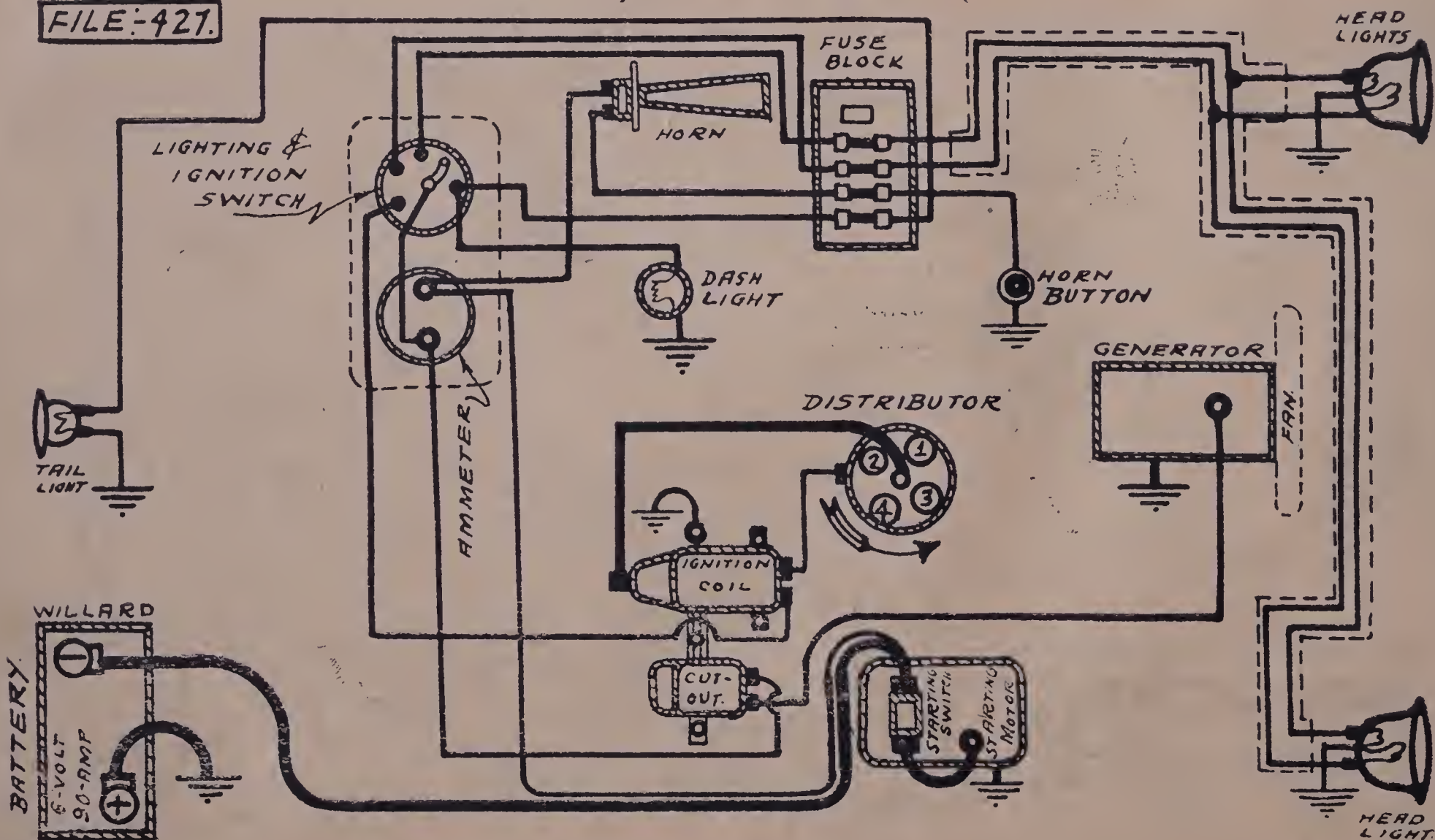
FILE: 239



NASH

1920-1921 FOUR CYLINDER MODEL - I.
6-VOLT, WAGNER SYSTEM.

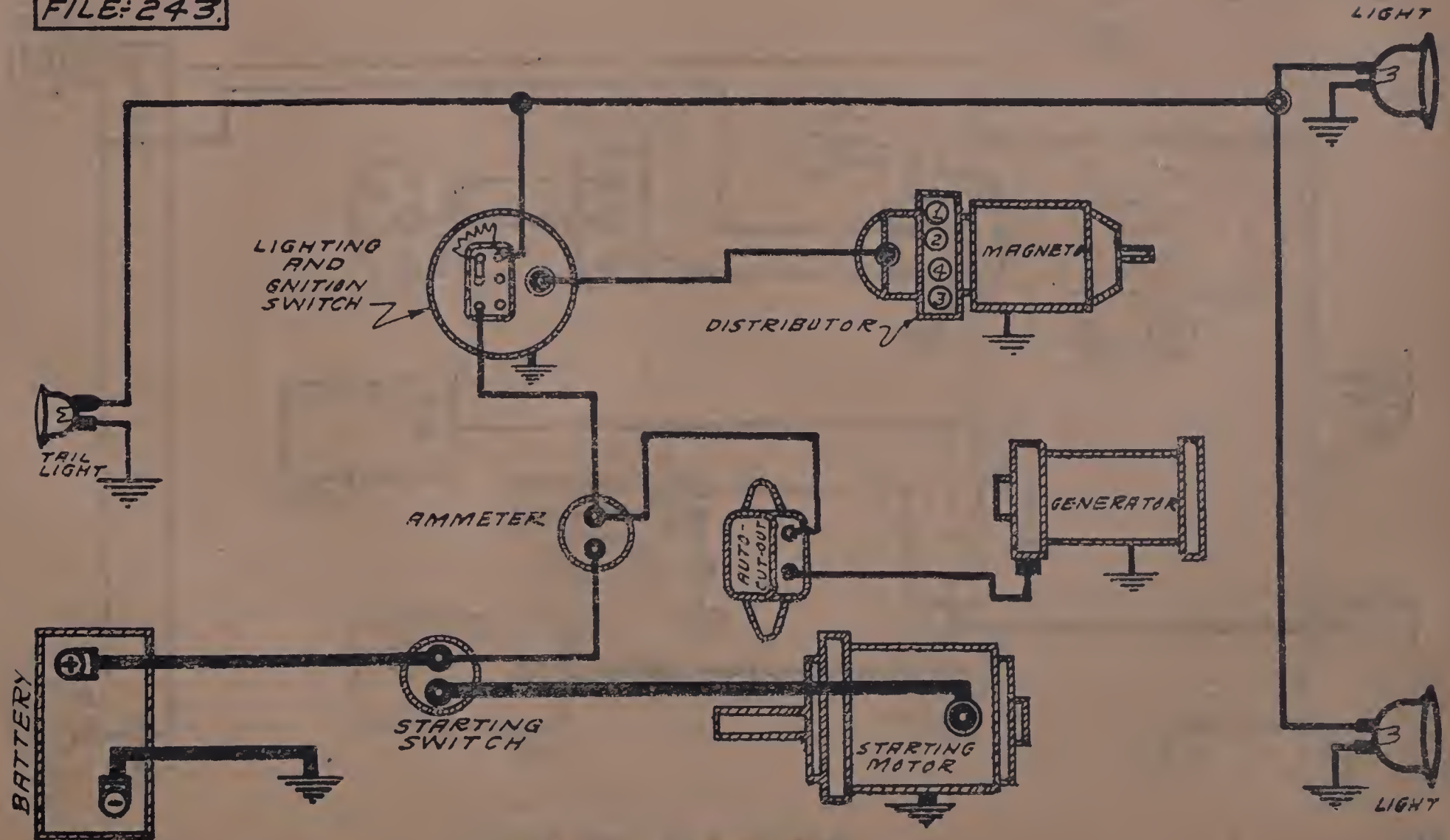
FILE: 427.



NASH TRUCK

1920-1921 ALL MODELS.
6-VOLT, AUTOLITE SYSTEM.

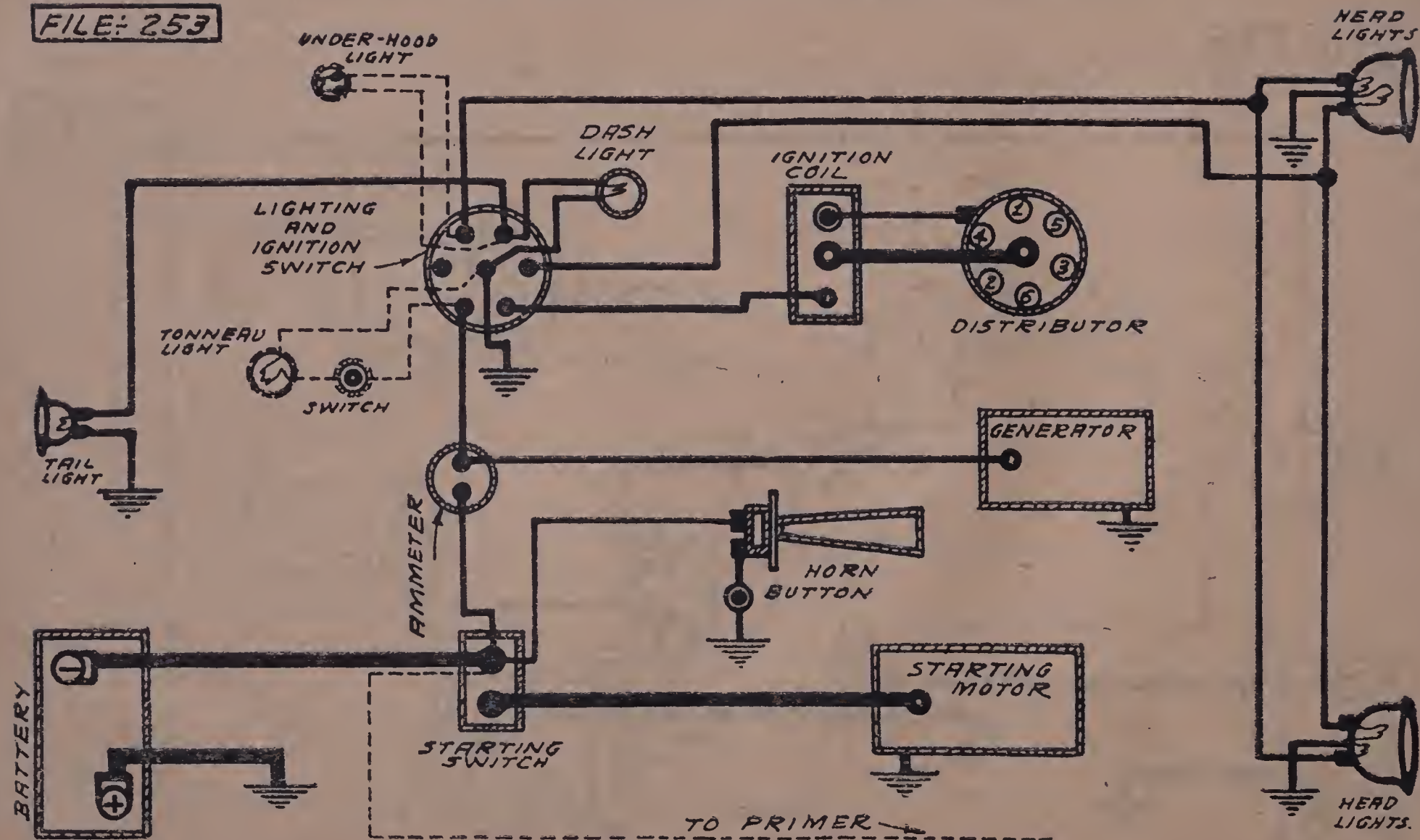
FILE: 243.



1921

NATIONAL SEXTETTE MODEL BB. 6-VOLT, WESTINGHOUSE SYSTEM.

FILE: 253



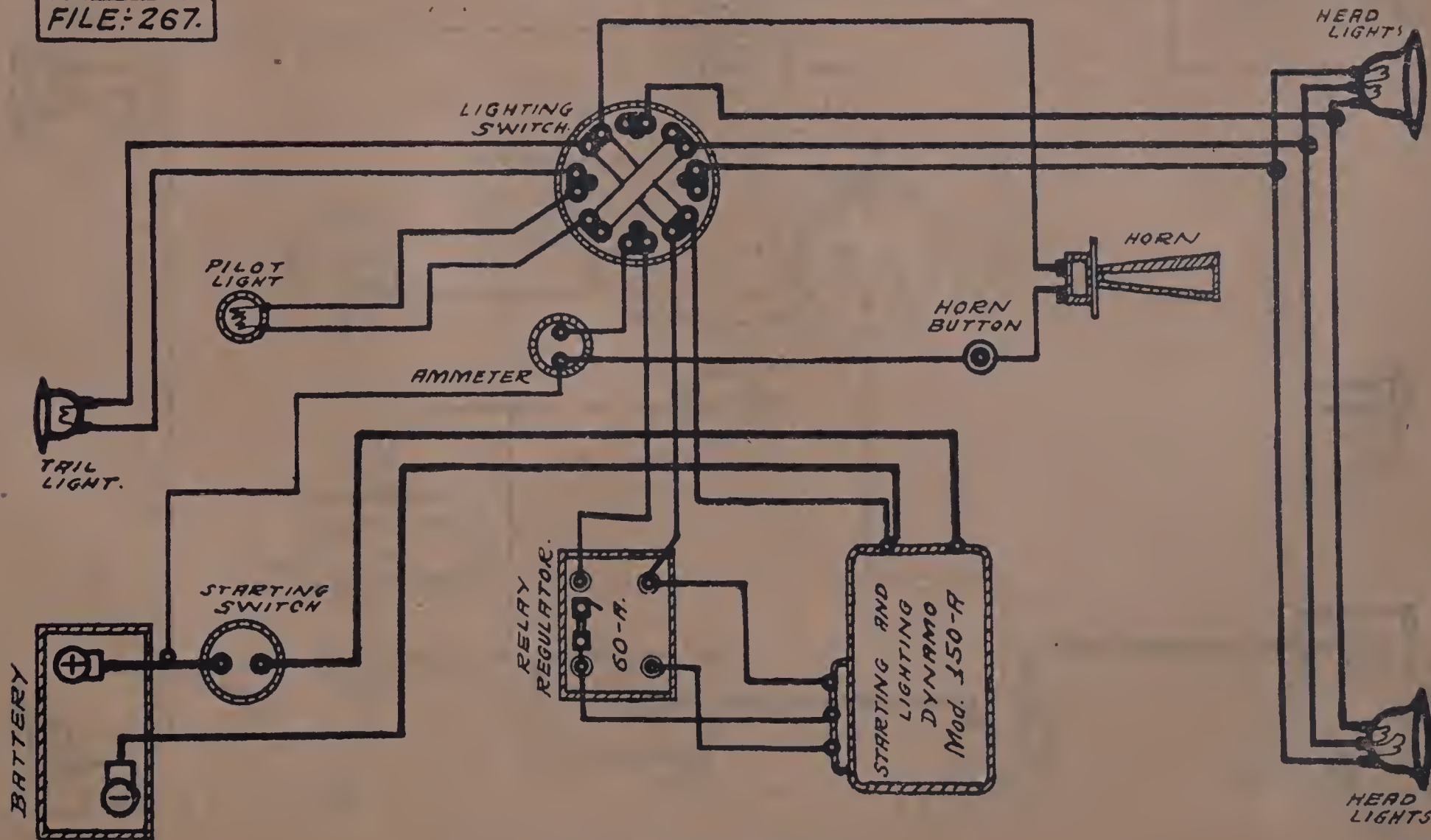
1914.

NATIONAL

SERIES A.A.

6-VOLT REMY SYSTEM

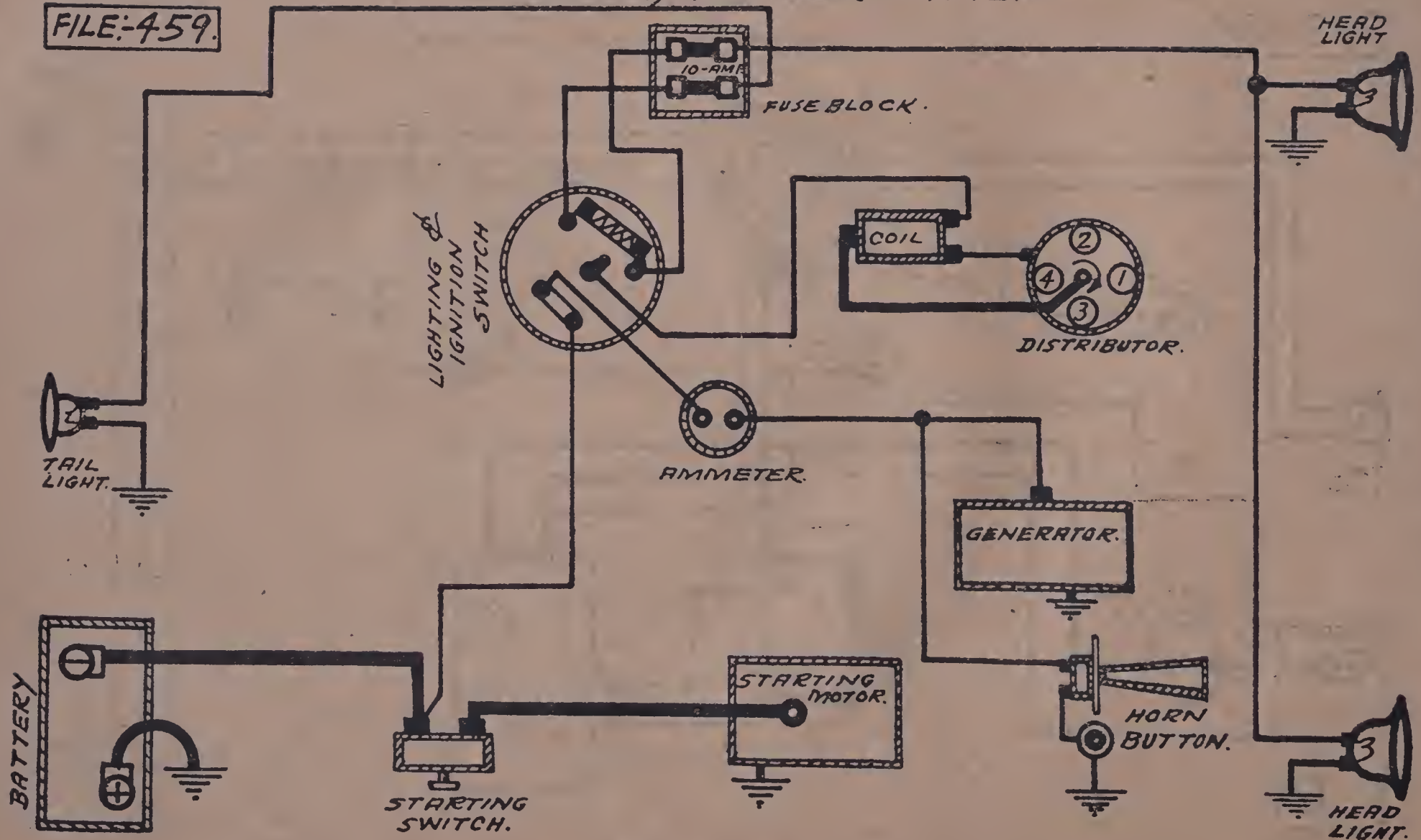
FILE: 267.



NORTHWAY TRUCK

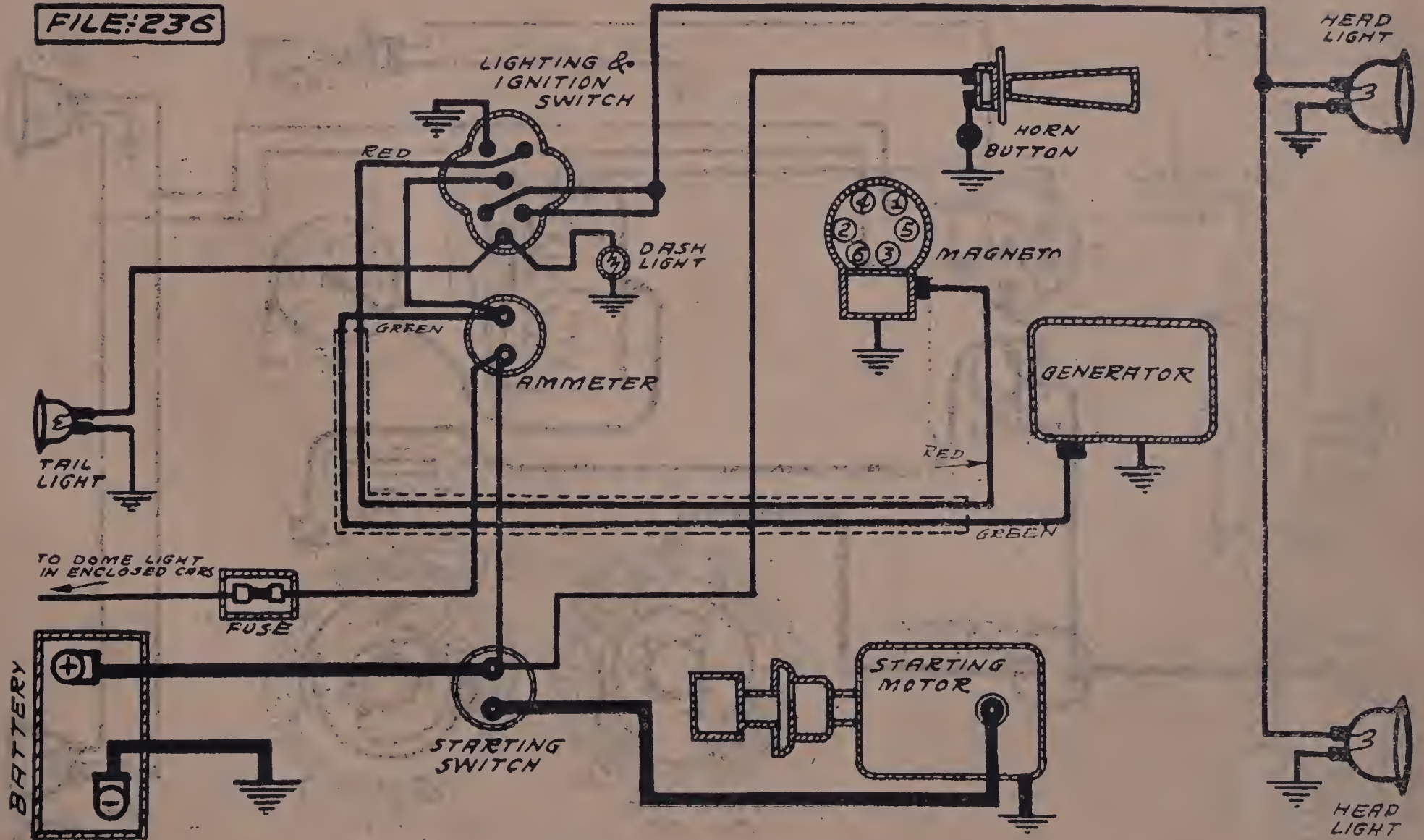
1920-1921 MODELS.
6-VOLT, WAGNER SYSTEM.

FILE:-459.



OAKLAND
MAGNETO EQUIPPED
6-VOLT, REMY SY.

FILE: 236



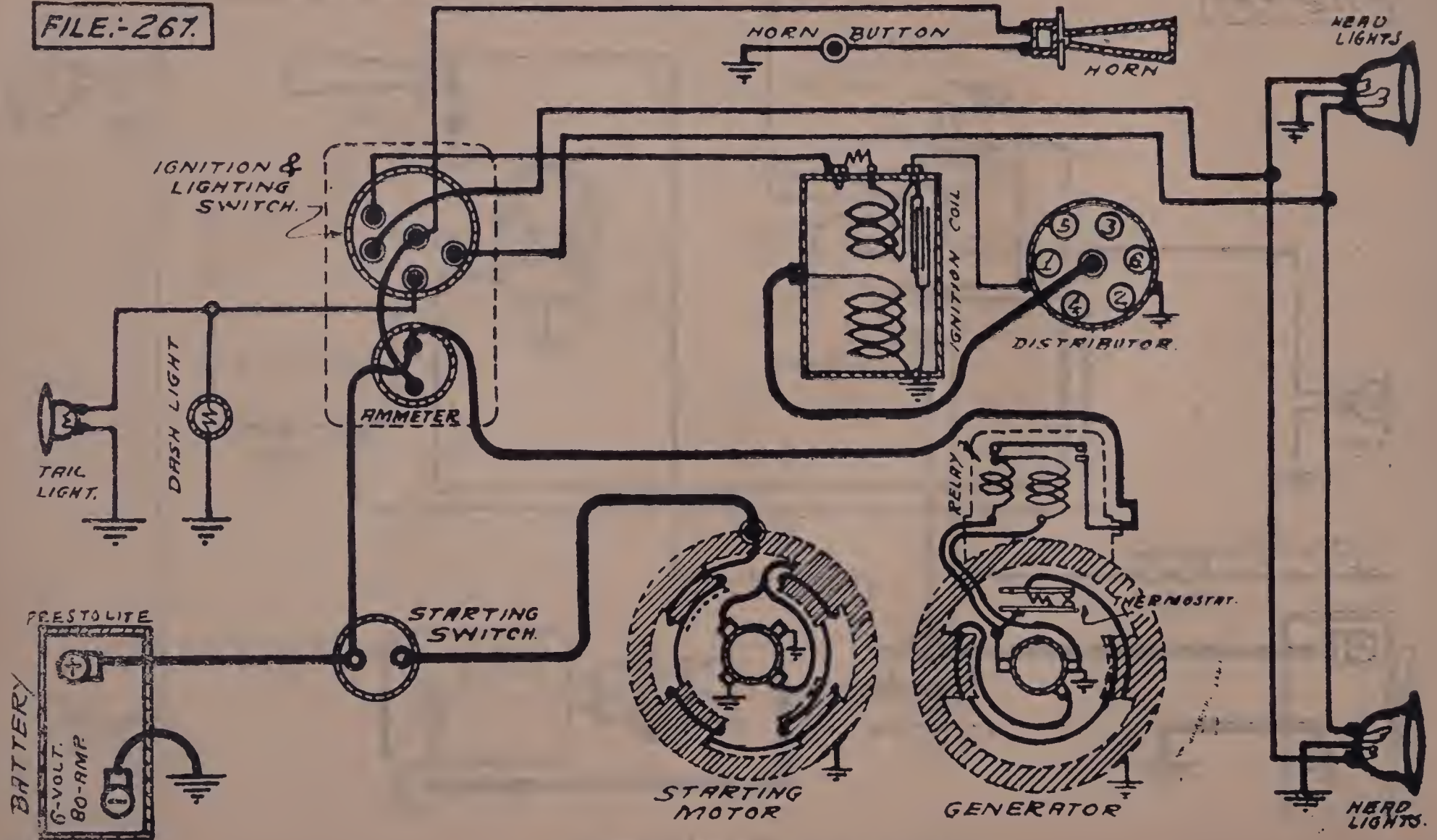
OAKLAND

1920,-1921.

MODEL, 34-C.

6-VOLT, REMY SYSTEM.

FILE:-267.

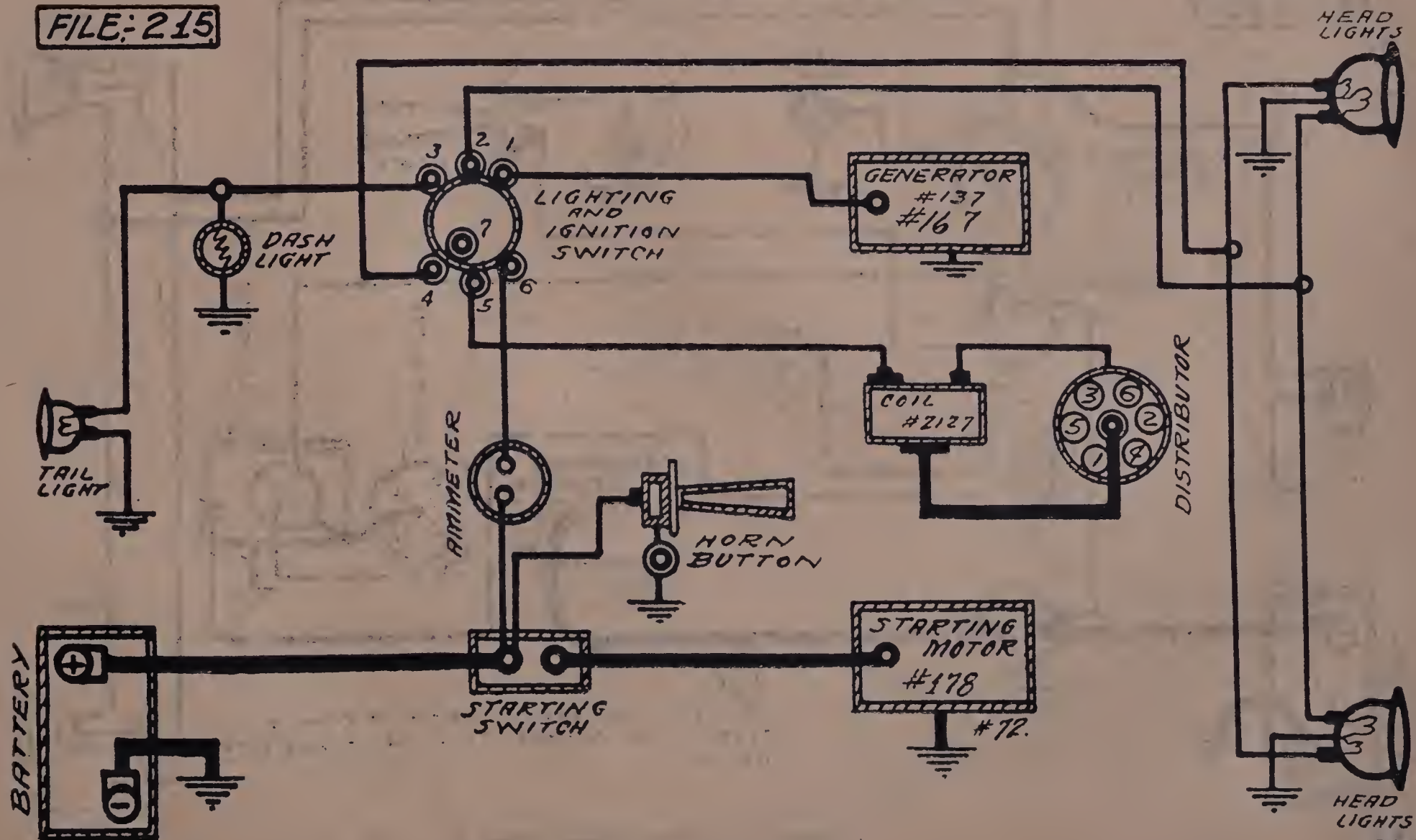


1921

OLDSMOBILE

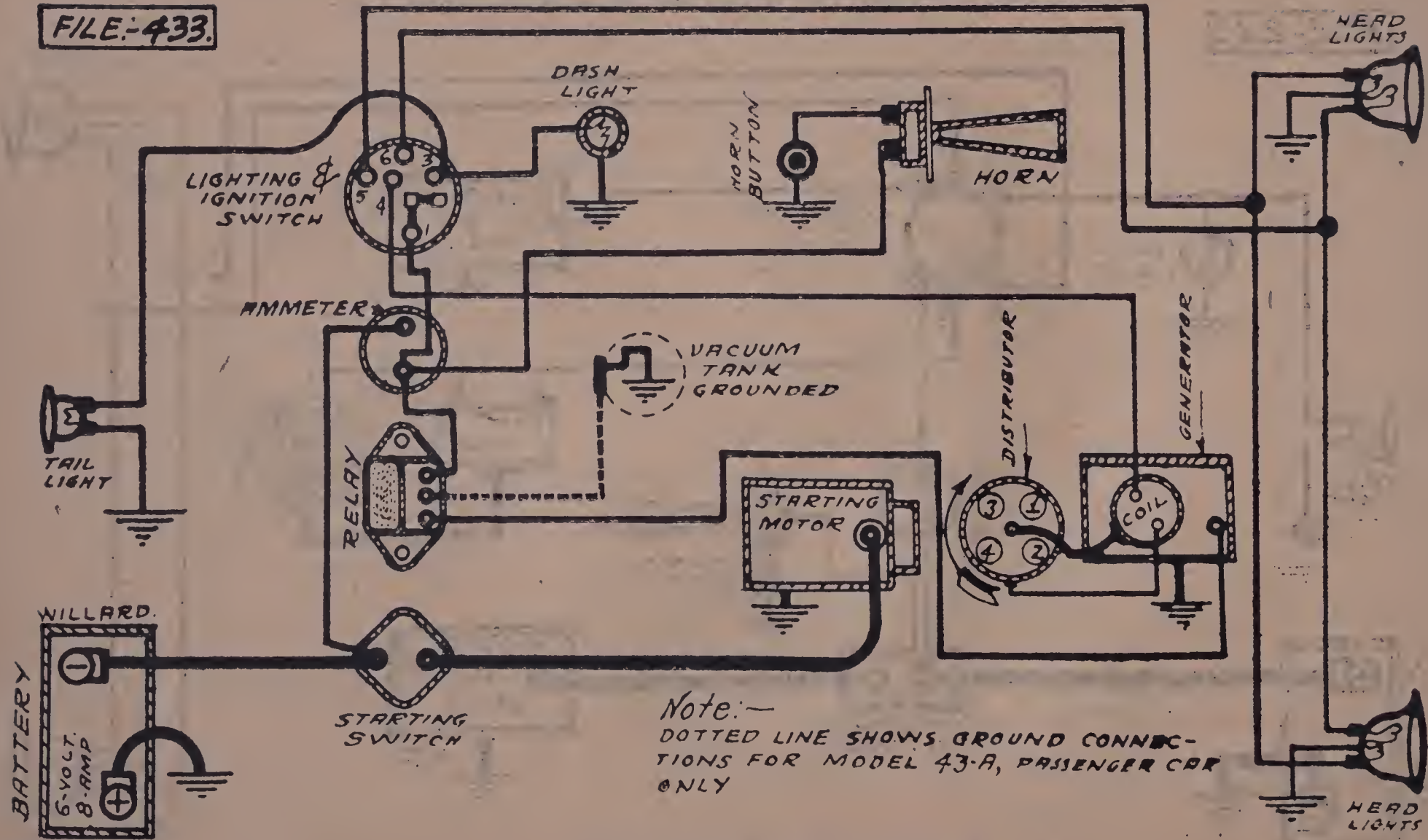
MODEL - 46
6-VOLT, DELCO SYSTEM.

FILE: 215



1921
OLDSMOBILE
 MODEL 'T' TRUCK & PASS. CAR-43-A.
 6-VOLT, REMY SYSTEM.

FILE-433.



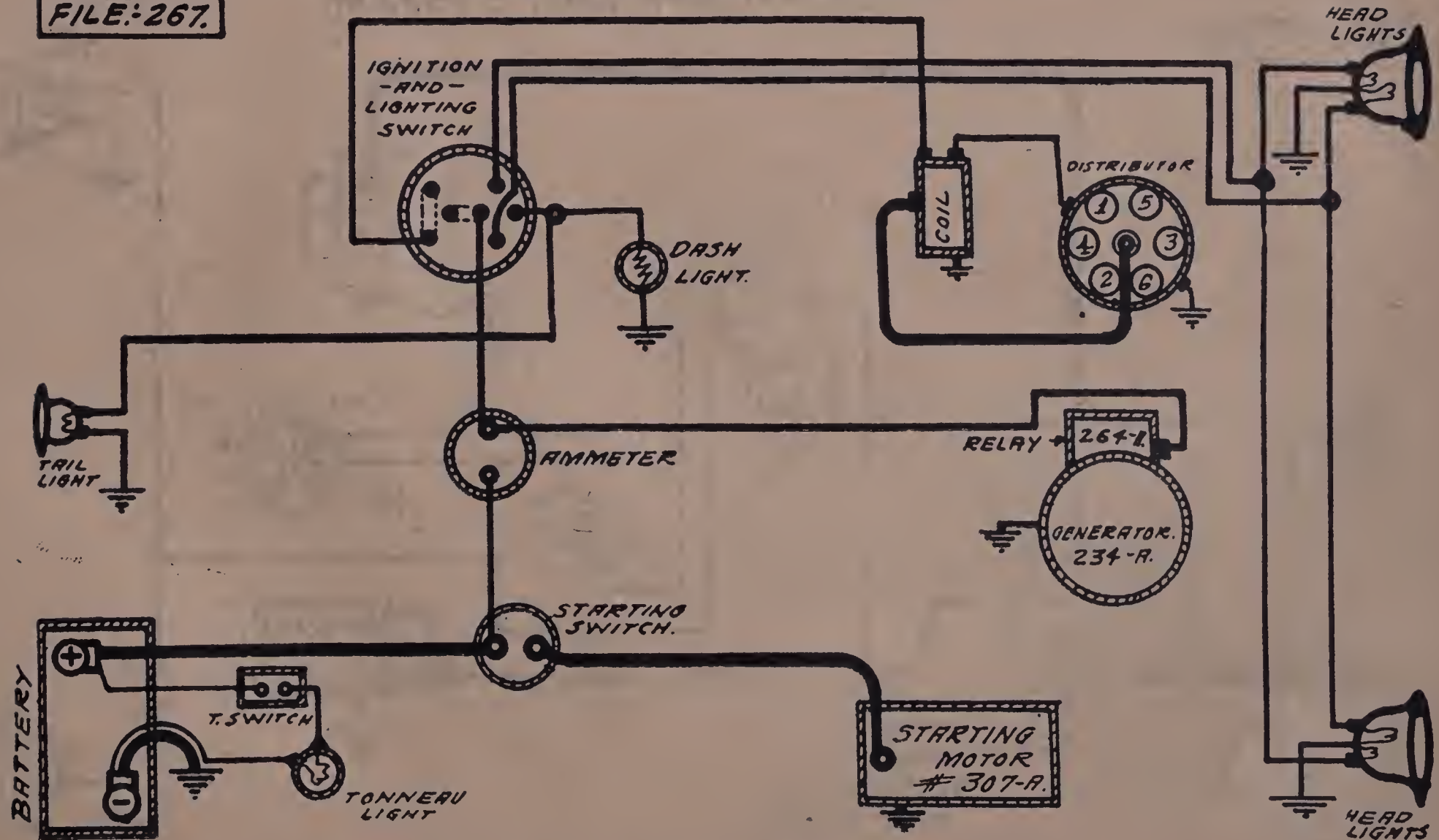
OLDSMOBILE.

1917, 1918, 1919.

MODEL -37

6-VOLT, REMY SYSTEM.

FILE: 267.

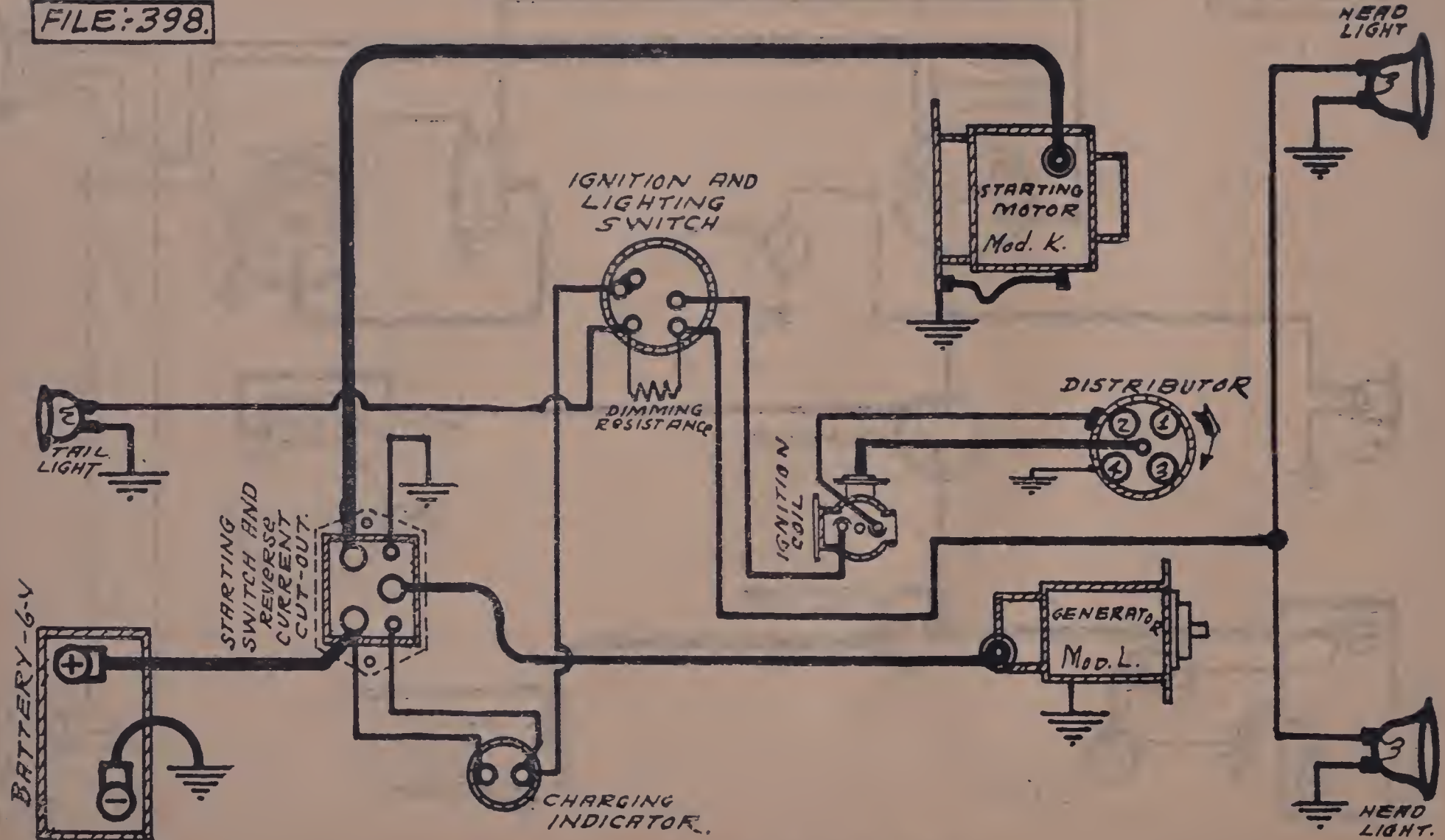


OSHKOSH

4-WHEEL DRIVE TRUCK

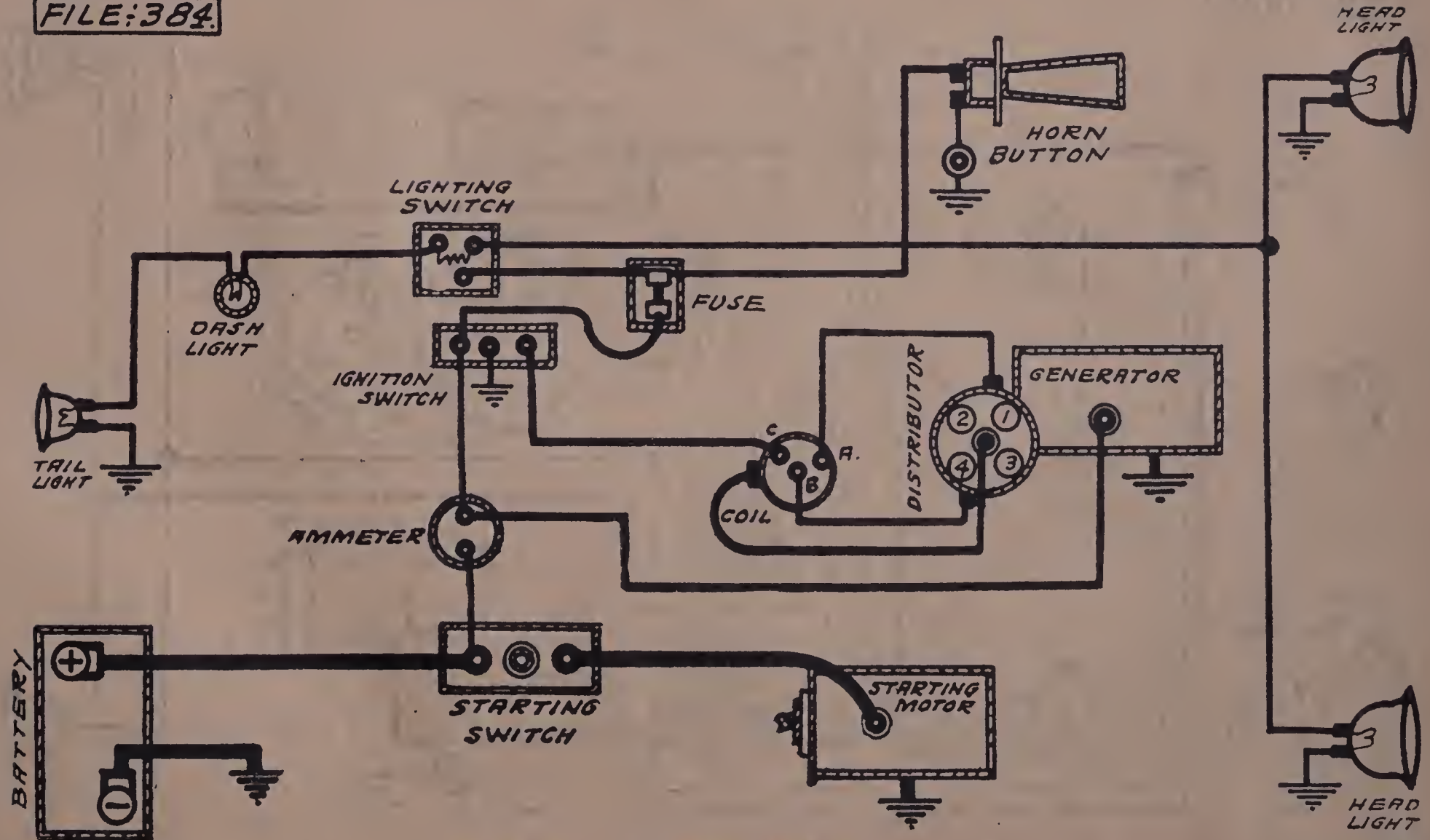
6-VOLT, -NORTH EAST SYSTEM.

FILE:398.



1921 **OVERLAND** MODEL-4
6-VOLT, AUTOLITE SYSTEM.

FILE:384.



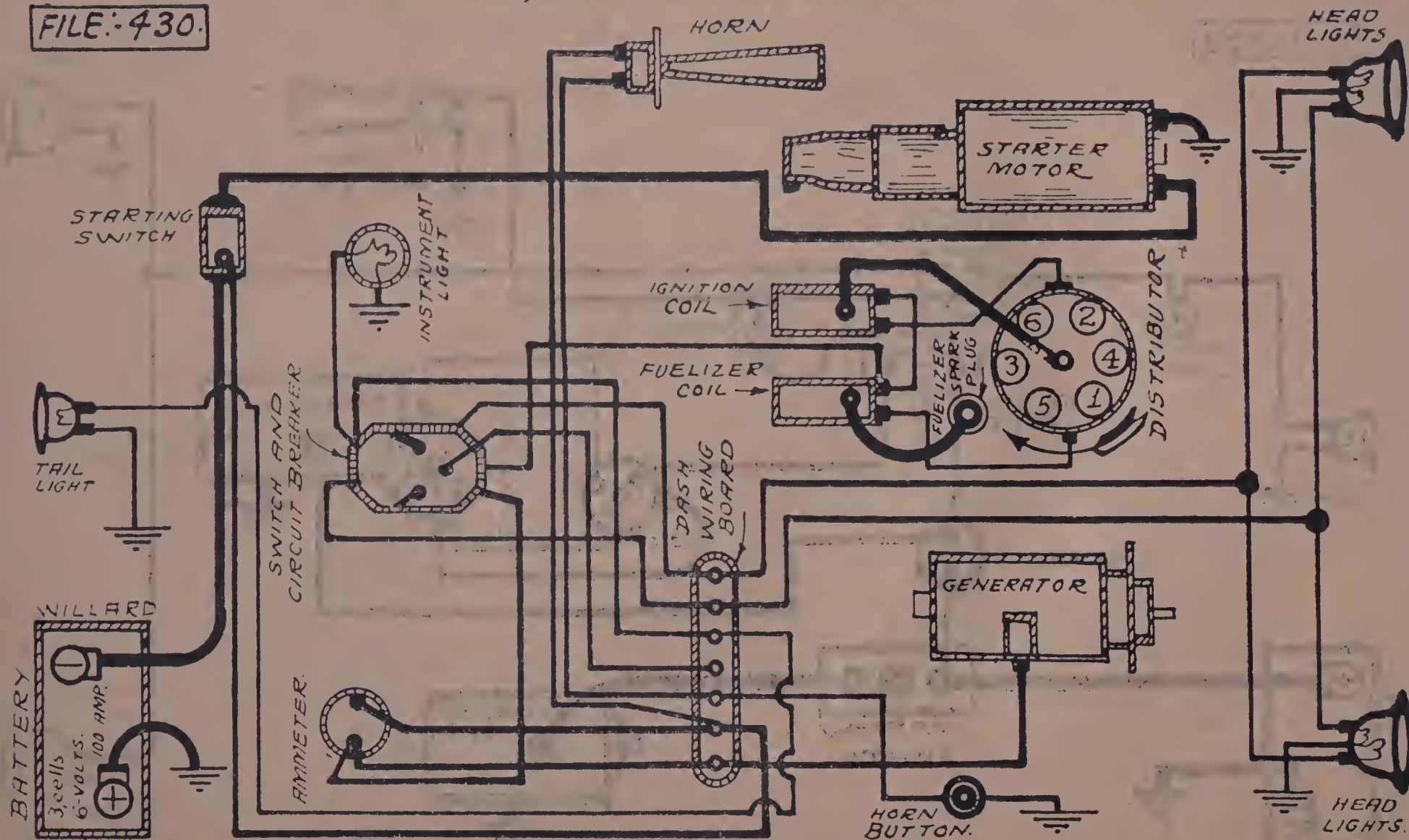
1921

PACKARD

SINGLE SIX,

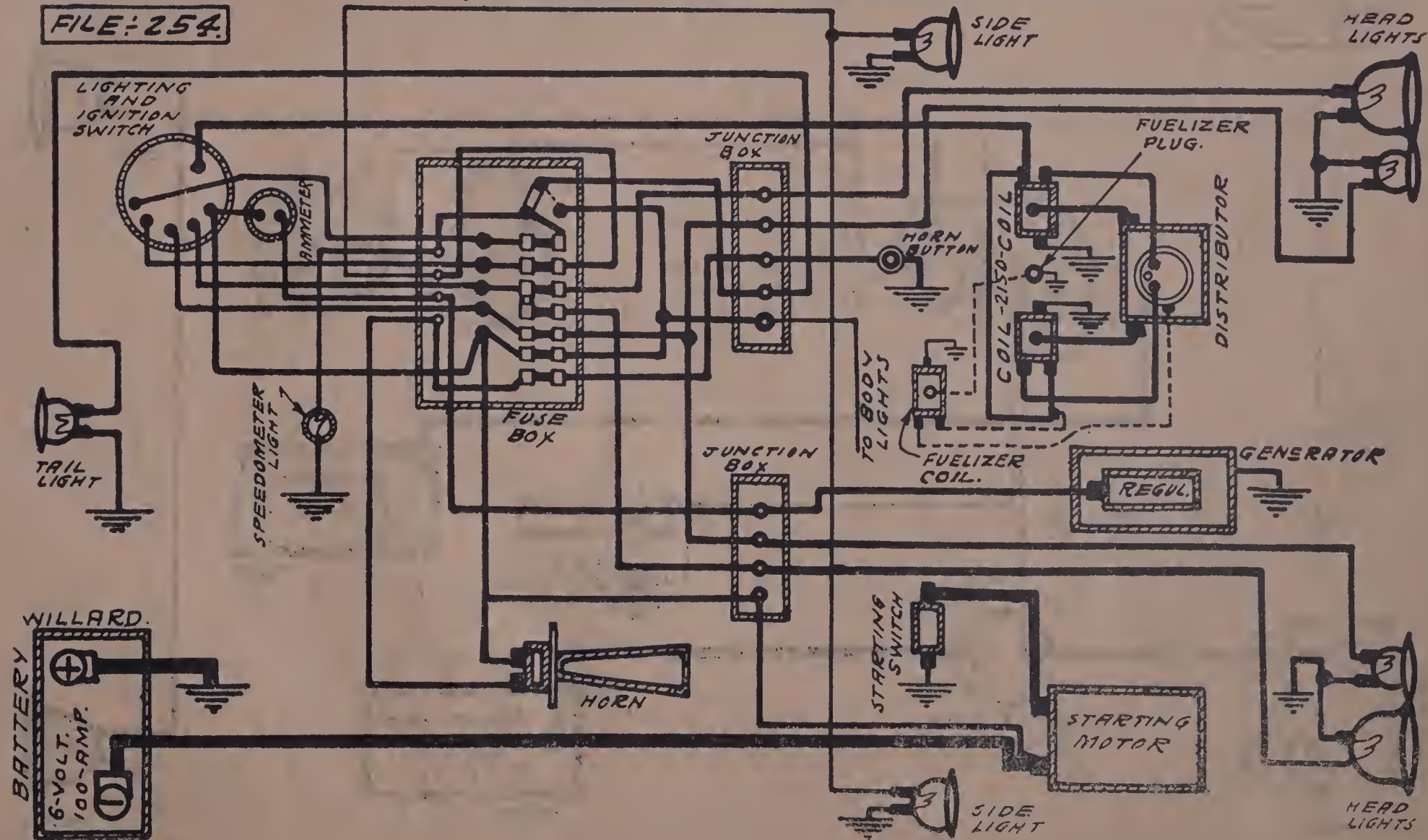
6-VOLT, ATWATER-KENT SYSTEM.

FILE: 430.



PACKARD

LATE 1920,-1921 FUELIZER WIRING-4-SERIES "TWIN-SIX"
6-VOLT,-BIJUR SYSTEM = DELCO IGNITION



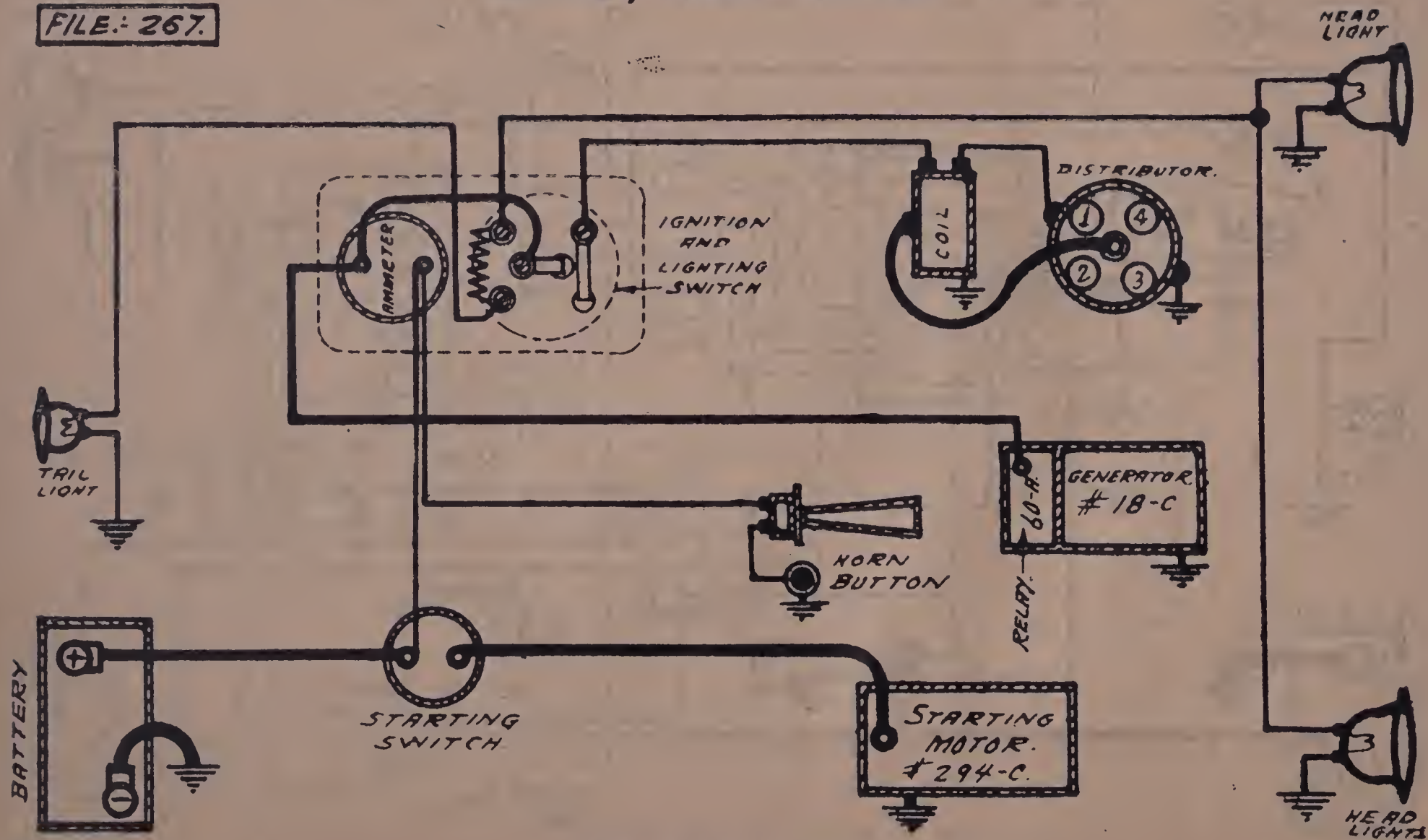
PAN

1917

MODEL 250.

6-VOLT, - REMY SYSTEM.

FILE: 267.



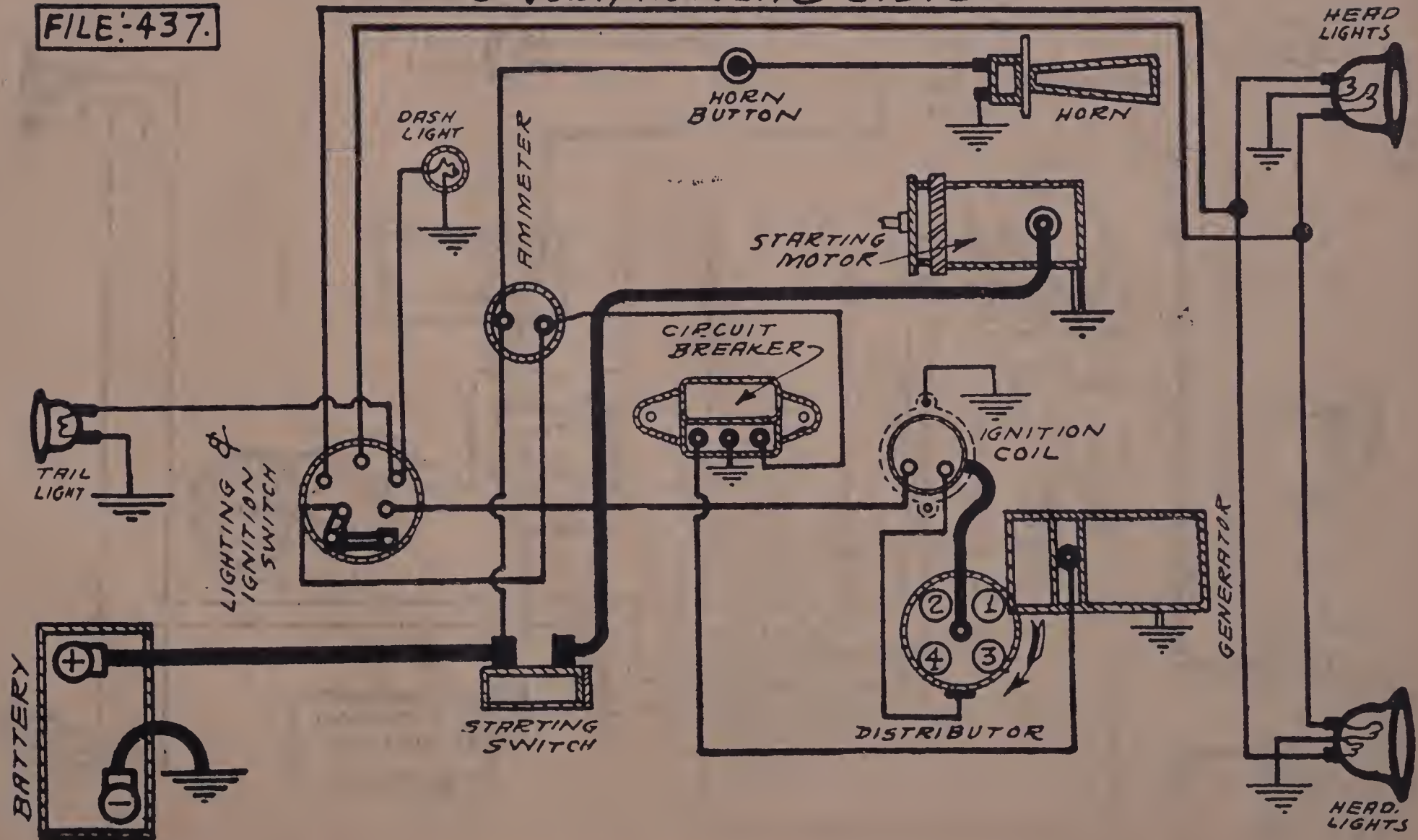
PAN

1921

MODEL - A.

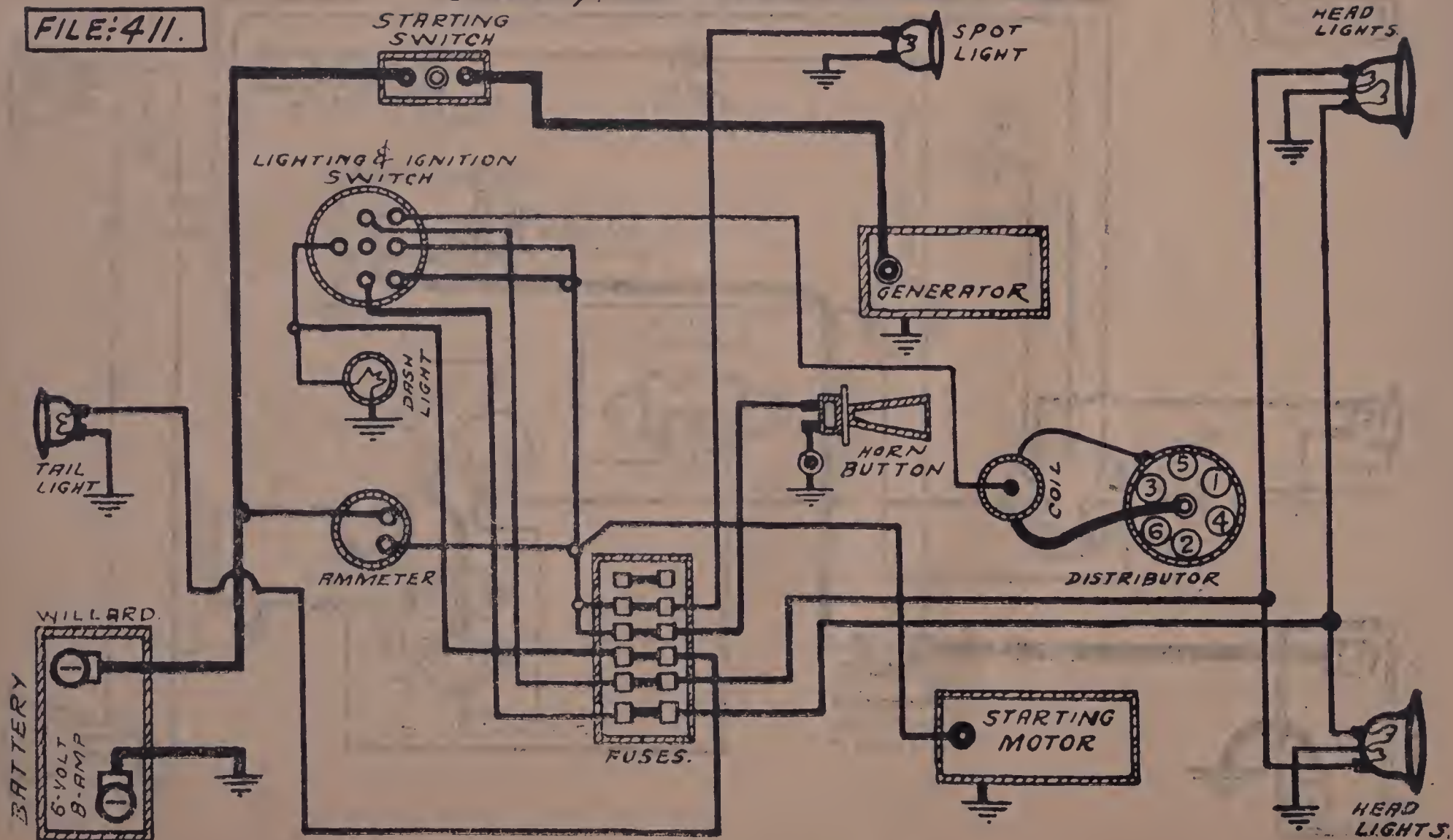
6-VOLT, AUTOLITE SYSTEM.

FILE: 437.



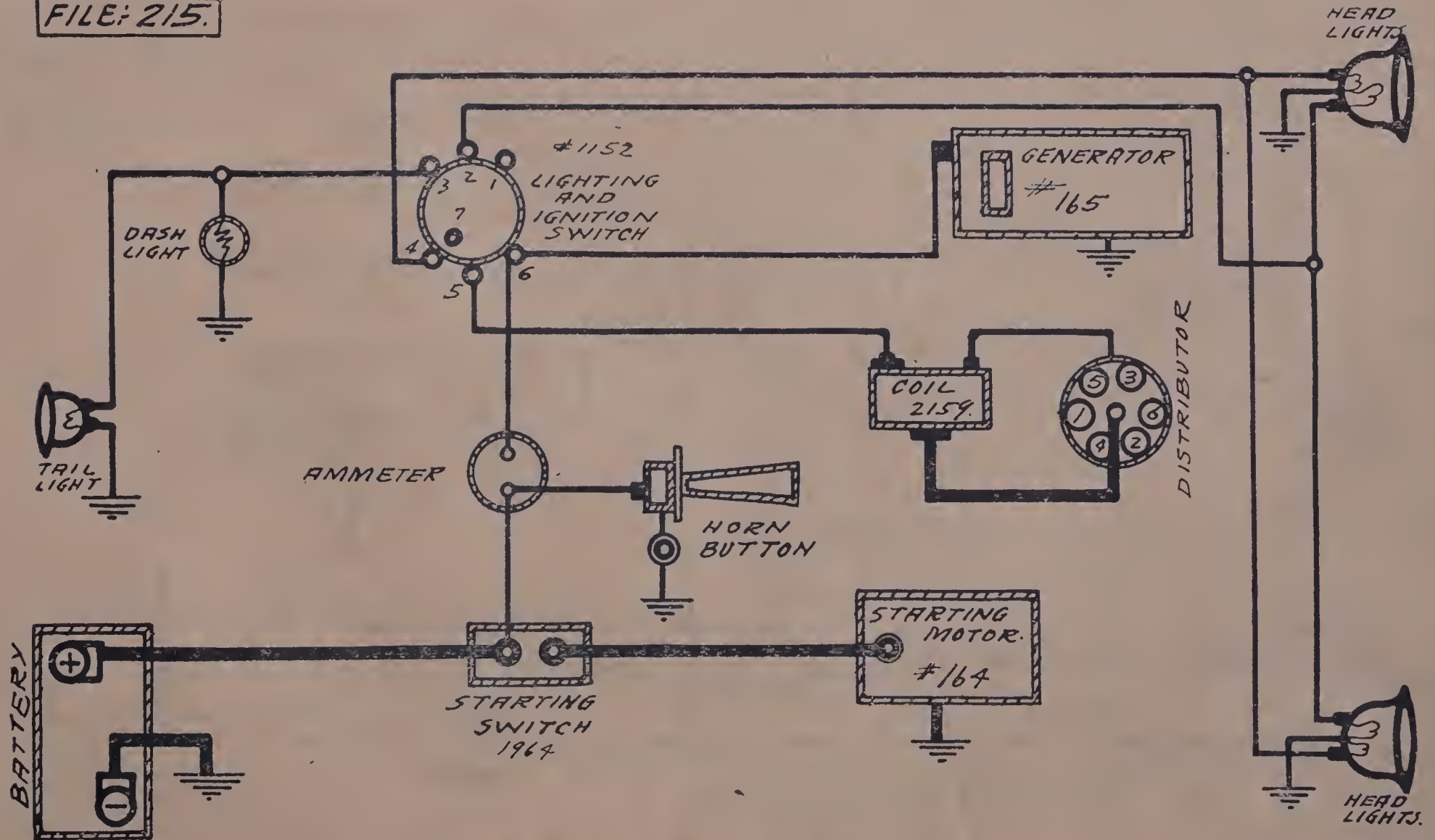
PAN-AMERICAN 1920-1921 MODELS. 6-VOLT, WESTINGHOUSE SYSTEM.

FILE: 411.

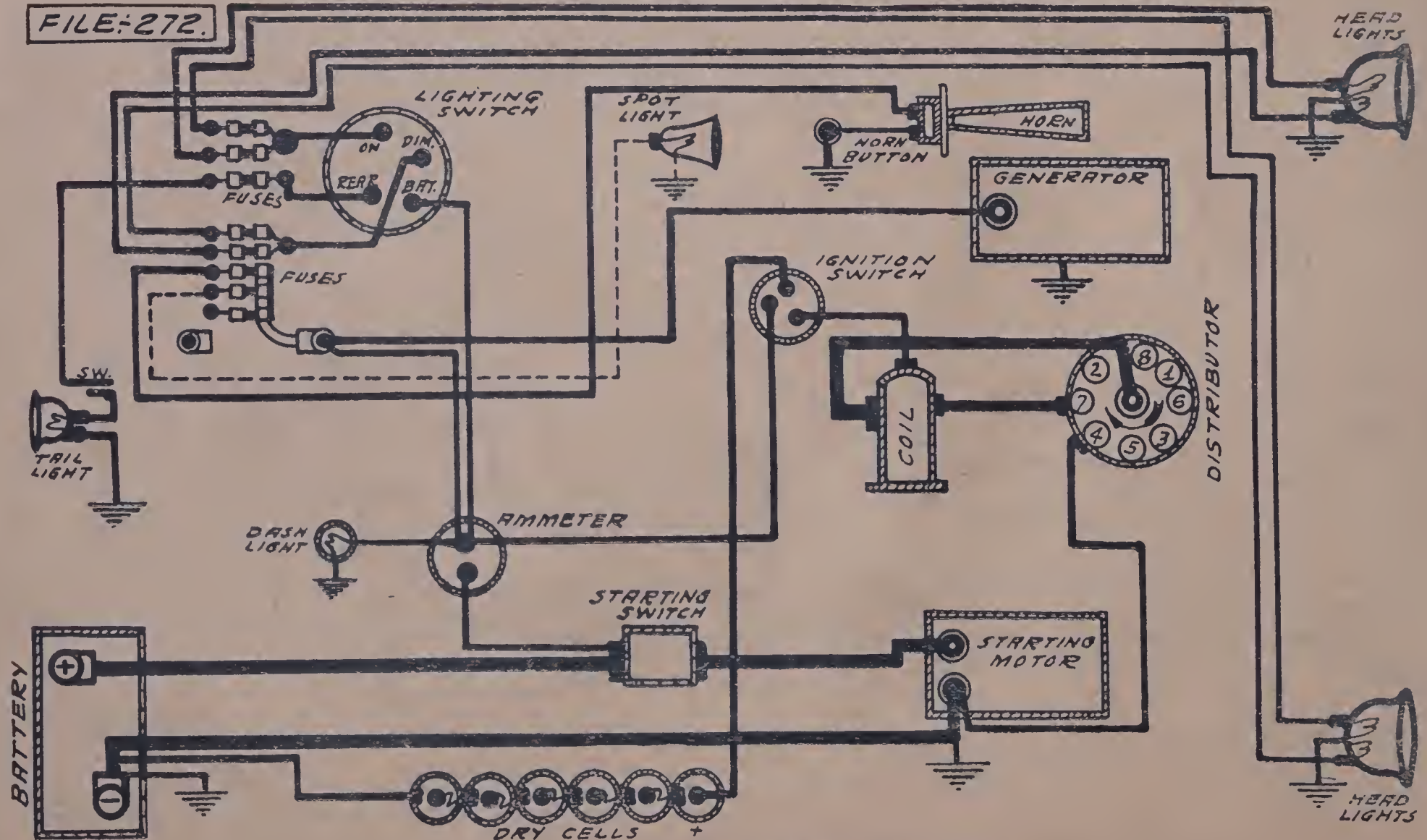


PATERSON
1921 MODEL 6-50.
6-VOLT, DELCO SYSTEM.

FILE: 215.



PEERLESS SERIES SIX MODEL 56 6-VOLT, AUTOLITE SYSTEM.



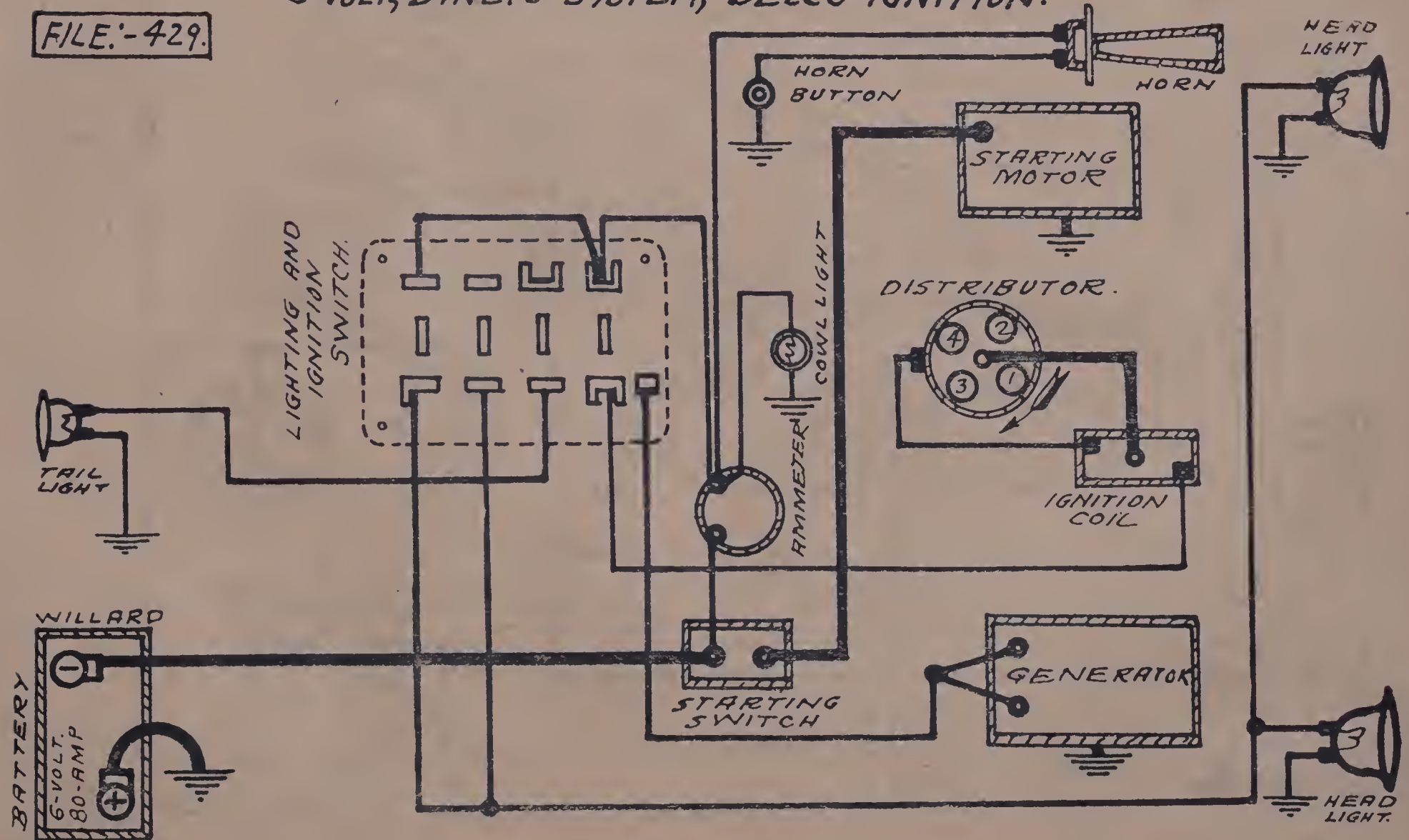
PIEDMONT

1917, 1918, 1919, 1920, 1921.

MODEL—4-30.

6-VOLT, DYNETO SYSTEM, DELCO IGNITION.

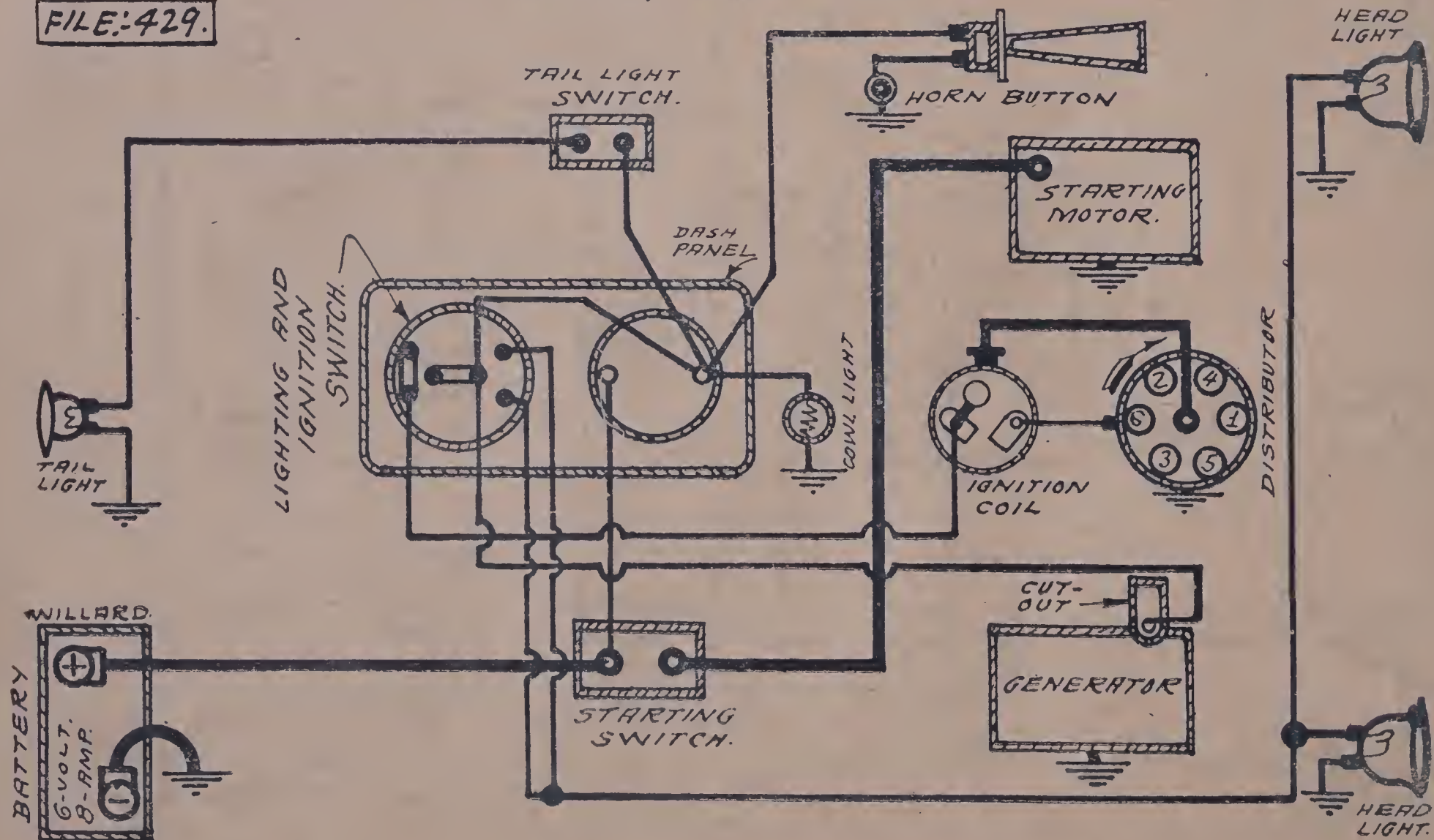
FILE:-429.



PIEDMONT

1918-1919-1920-1921 - MODEL-6-40.
6-VOLT, REMY SYSTEM.

FILE: 429.



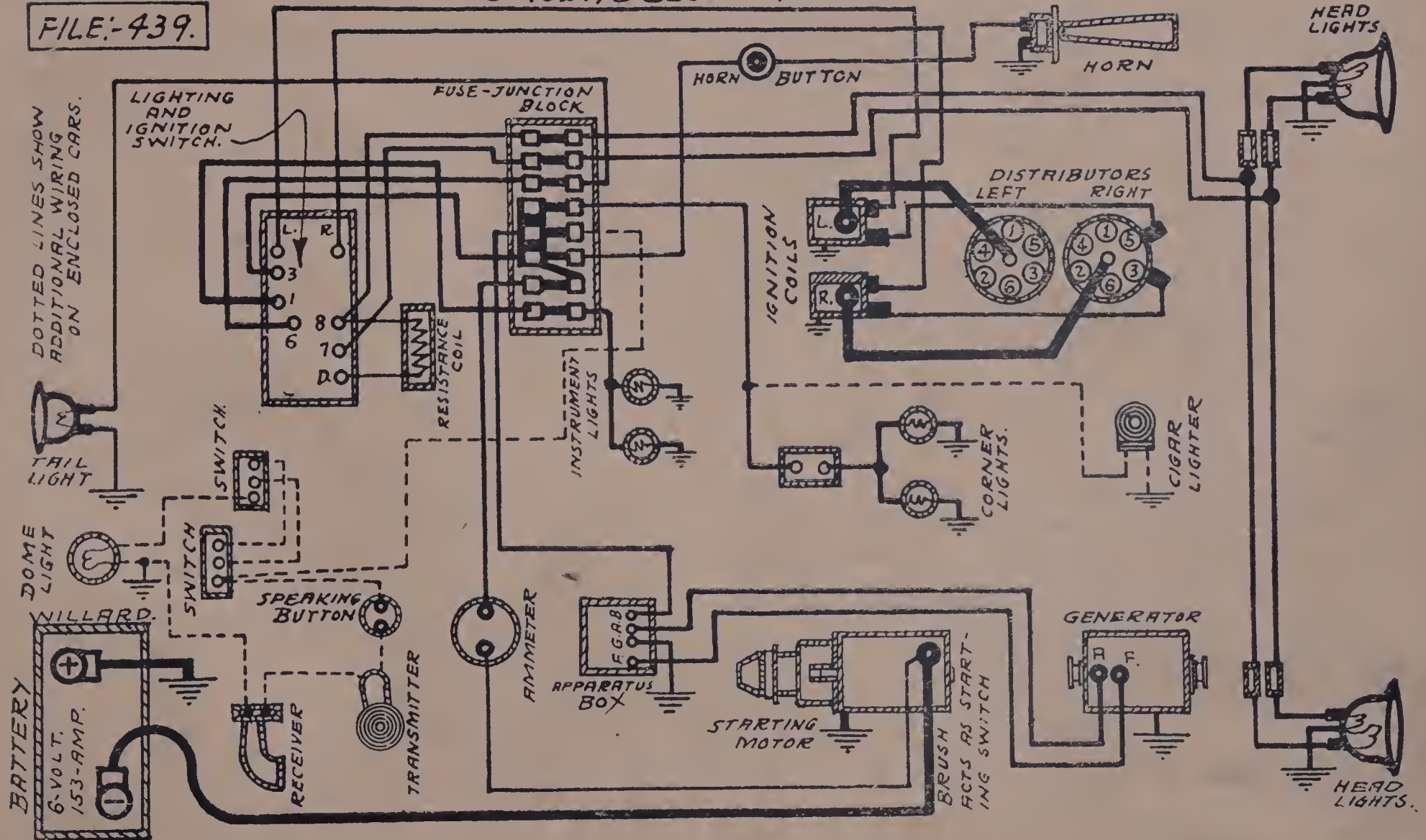
PIERCE-ARROW

1921

MODEL 38.

6-VOLT, DELCO SYSTEM.

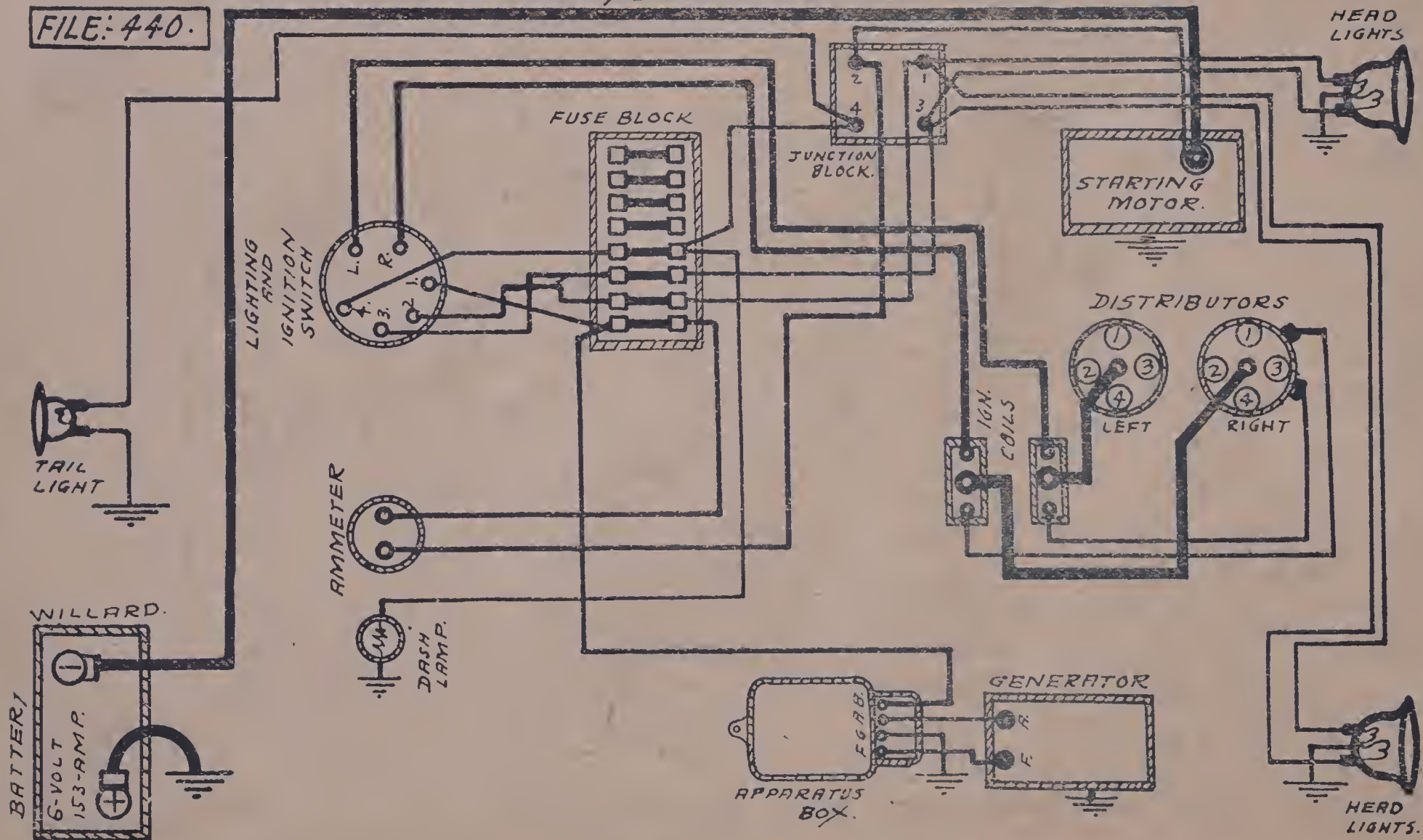
FILE:-439.



PIERCE-ARROW TRUCK

1920-1921. MODELS - X-5, W-2, R-10.
6-VOLT, DELCO SYSTEM.

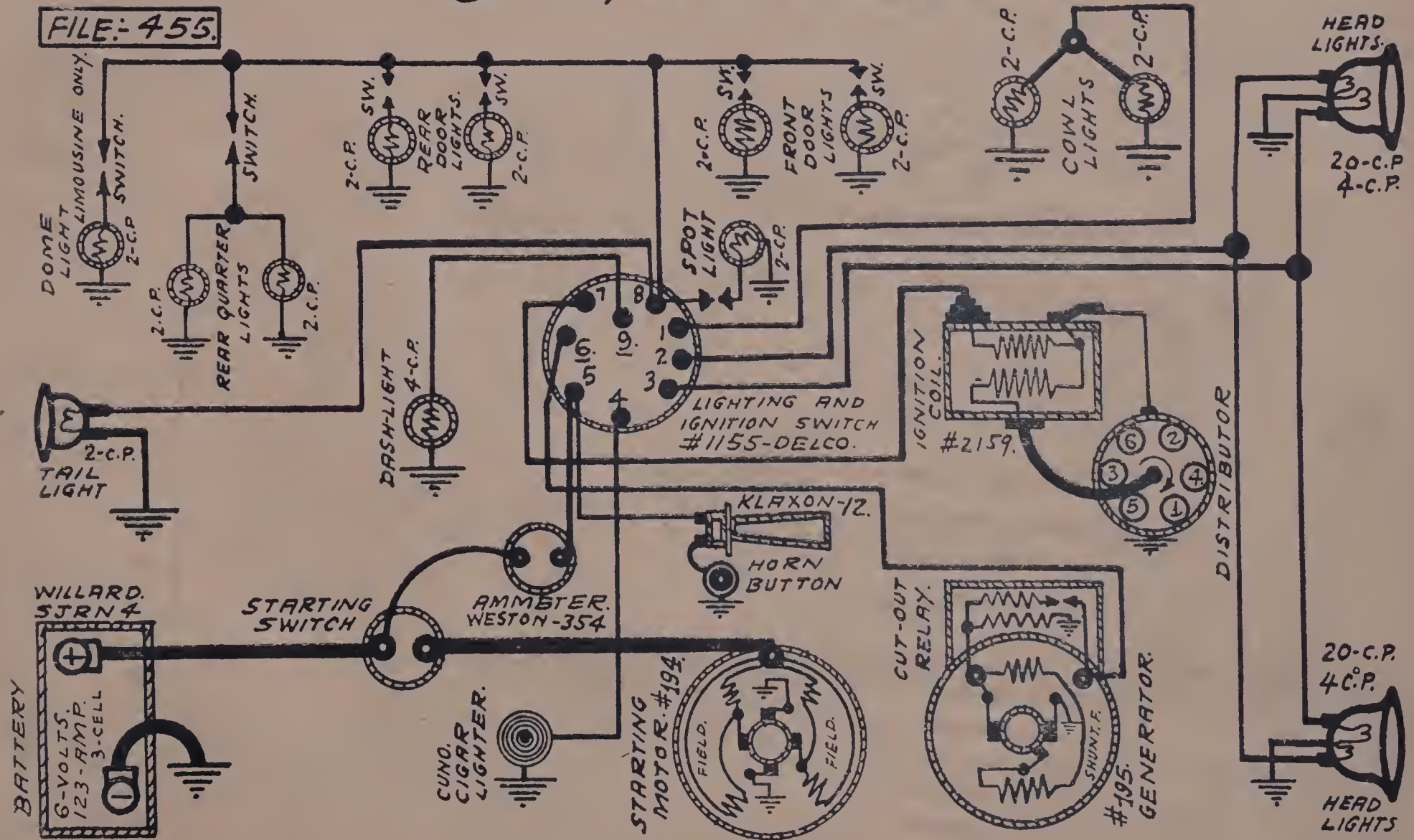
FILE: 440.



1921.

PREMIER

AFTER-1350. MODEL 6-D.
6-VOLT, DELCO SYSTEM.



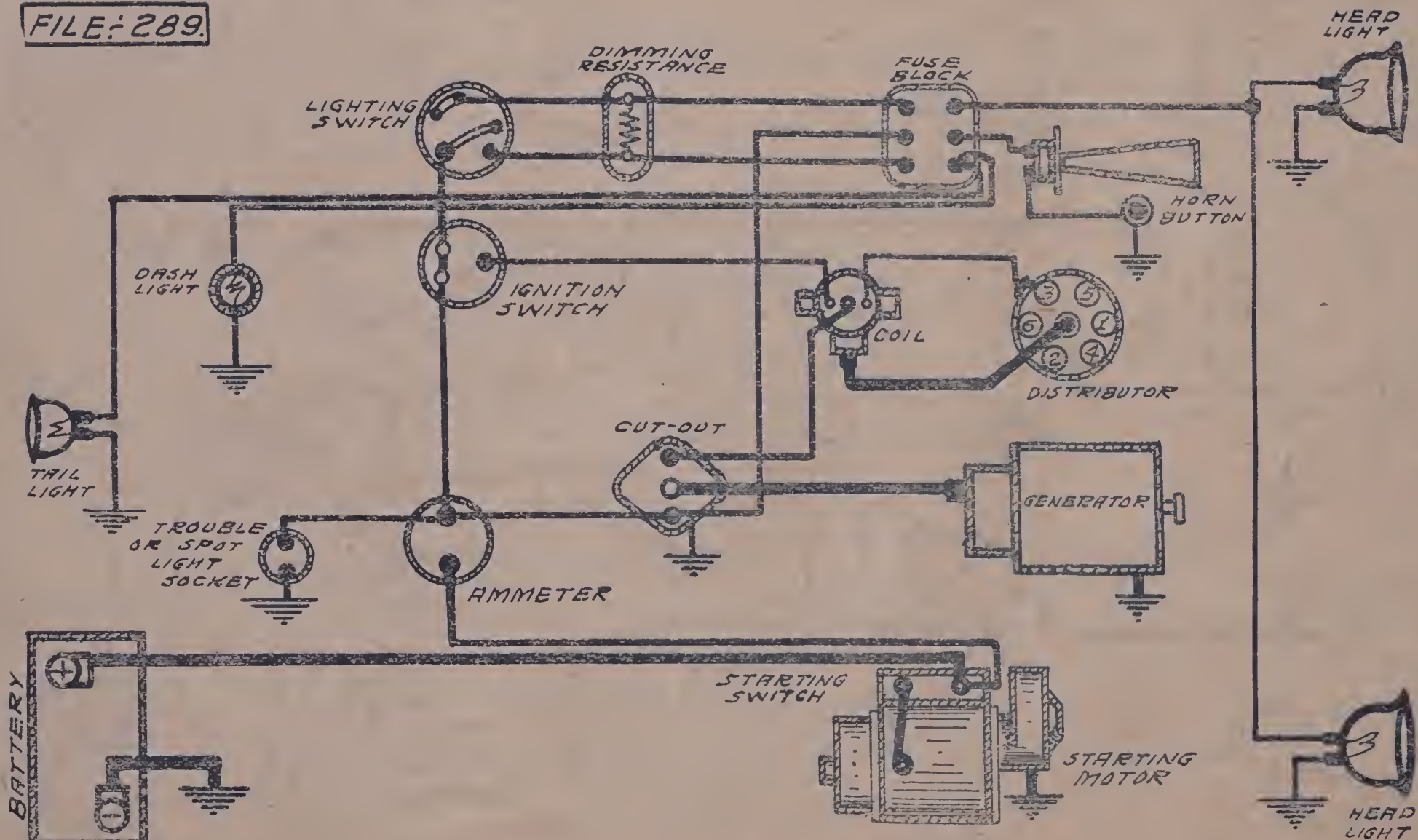
1921

REO

MODEL T-6

6-VOLT, NORTHEAST SYSTEM.

FILE: 289.

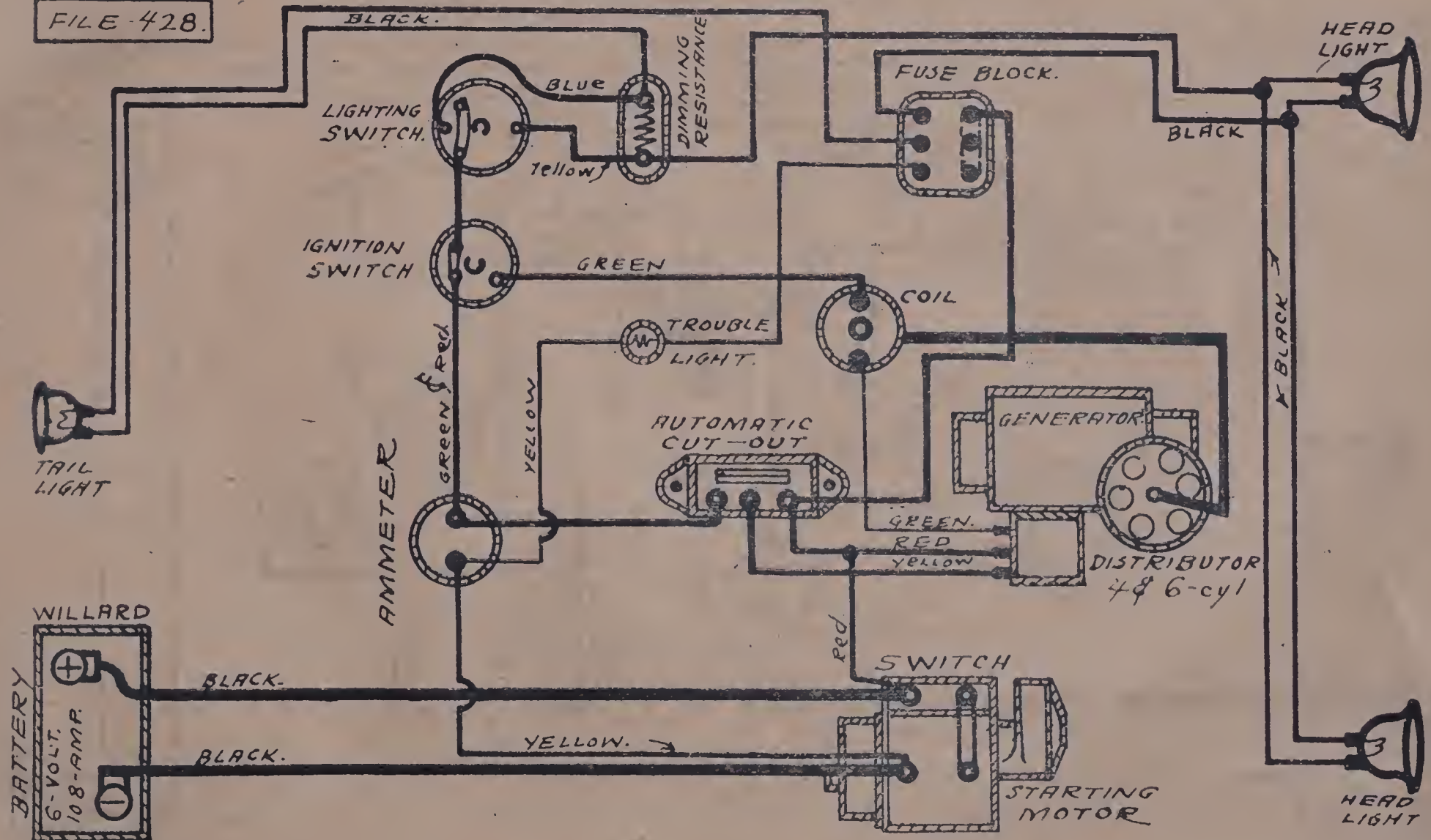


REO

1920-1921.

ALSO REO TRUCK MODEL-6, F-20-21.
6-VOLT, NORTH EAST SYSTEM, REMY SYSTEM.

FILE 428.



R & V KNIGHT.
MODEL-J, R.
6-VOLT, WAGNER SYSTEM.

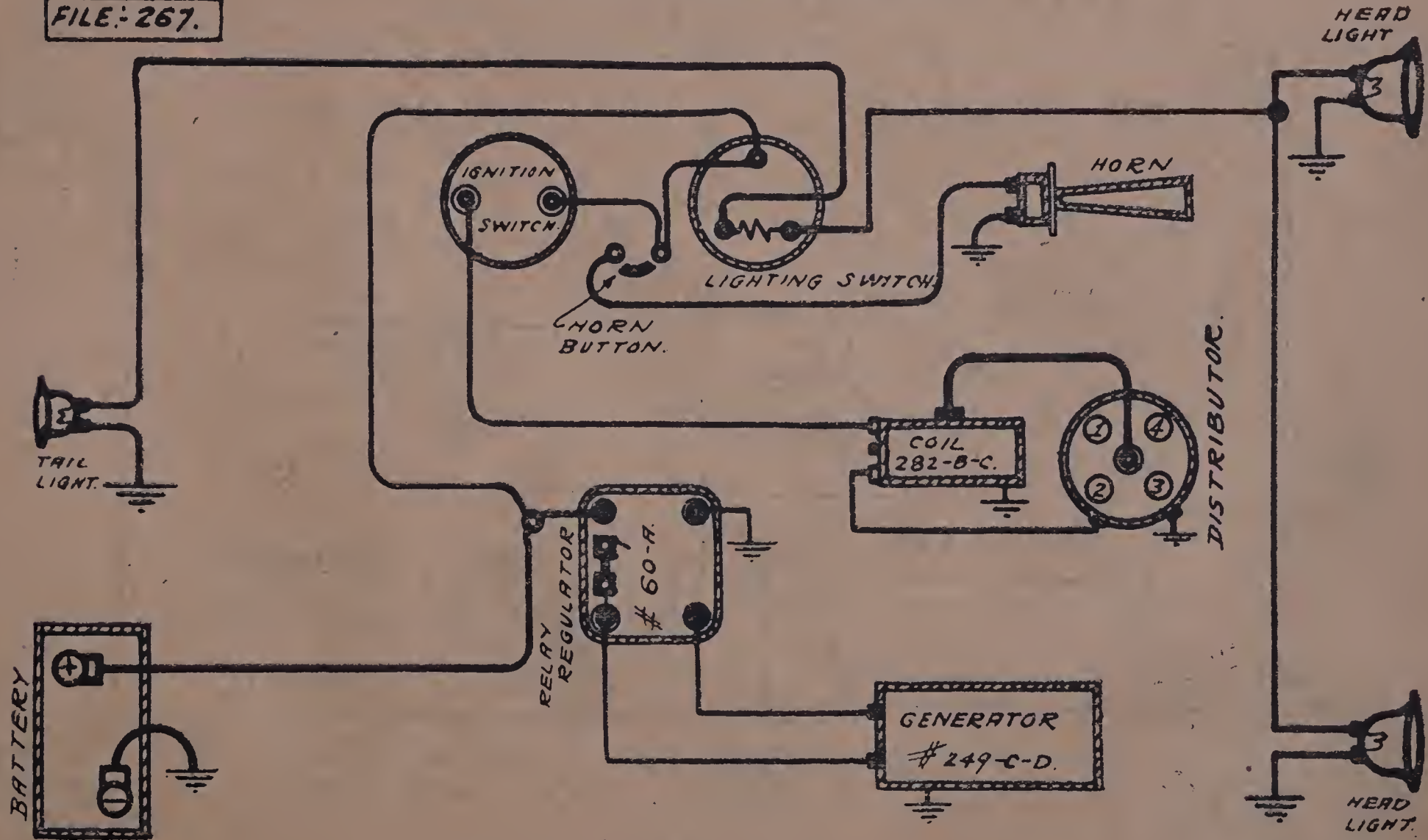
FILE: 214

The diagram illustrates the electrical system of a 1914 automobile. Key components and their connections include:

- Battery:** The primary power source, connected to the lighting and ignition switch and the starting motor.
- Lighting and Ignition Switch:** Controls the flow of electricity to the tail light, towner light, and the main power line.
- Lighting Components:** Tail light, Towner light, and Head lights.
- Starting System:** Includes a starting switch, an ammeter, and a starting motor.
- Charging System:** Consists of a generator connected to a distributor and a coil.
- Other Components:** A horn connected via a horn button, and a relay connected to the dash light.

REPUBLIC TRUCK.
MODELS-8,-9.
6-VOLT,-REMY SYSTEM.

FILE:-267.



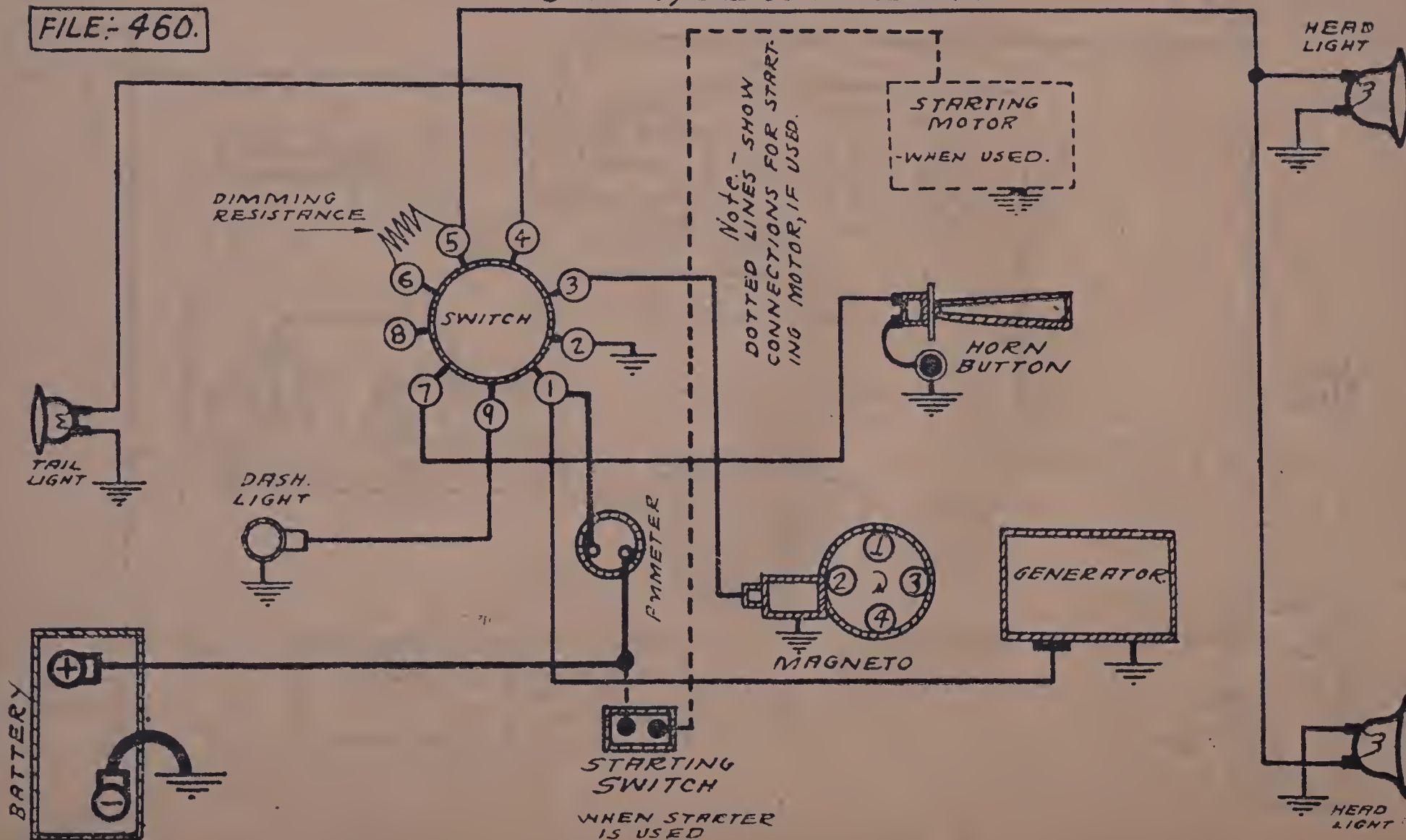
1921

REPUBLIC TRUCK

MODEL 10-E

6-VOLT, DELCO SYSTEM.

FILE: 460.



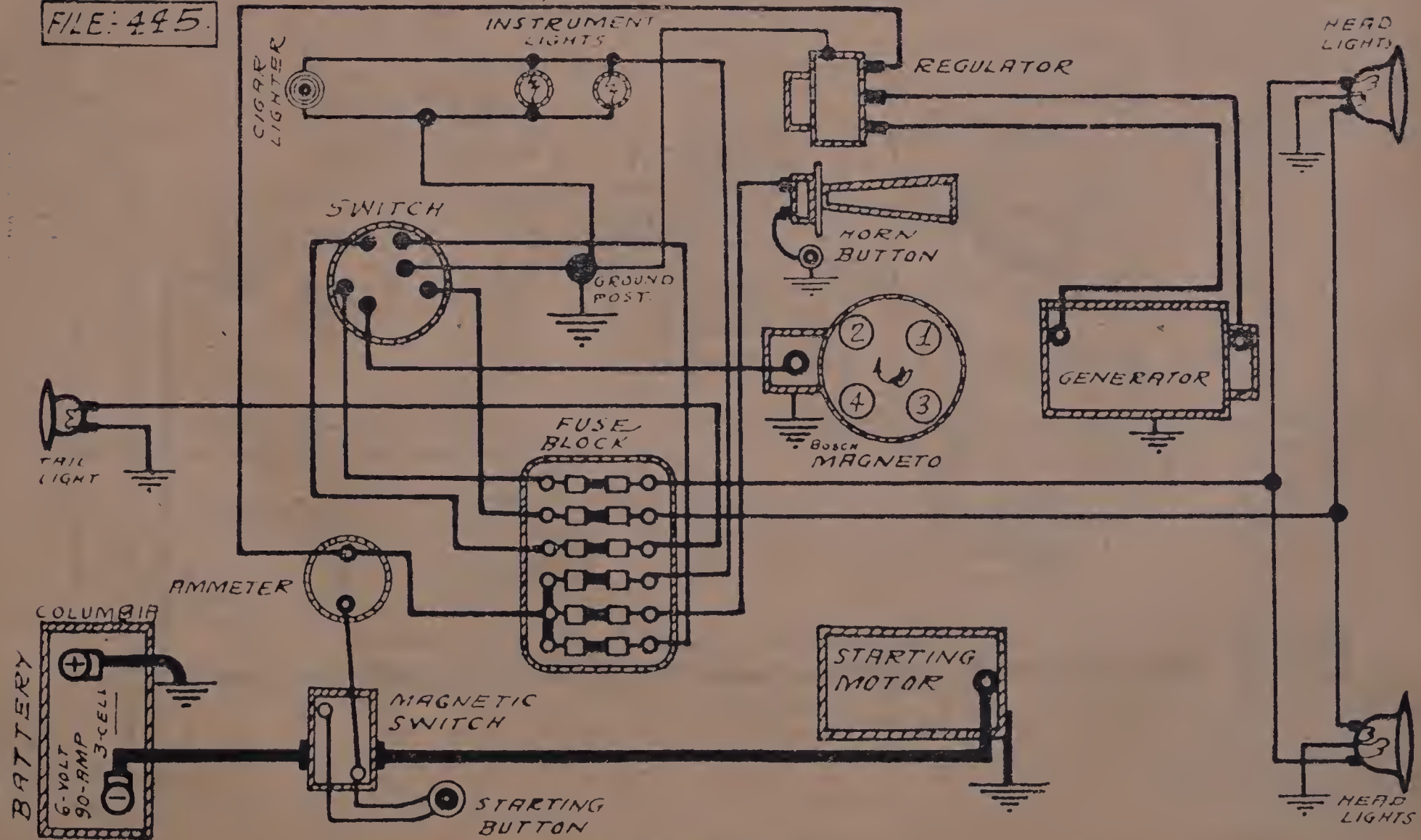
ROAMER

1921

MODEL-475-E.

6-VOLT, WESTINGHOUSE SYSTEM.

FILE: 445.



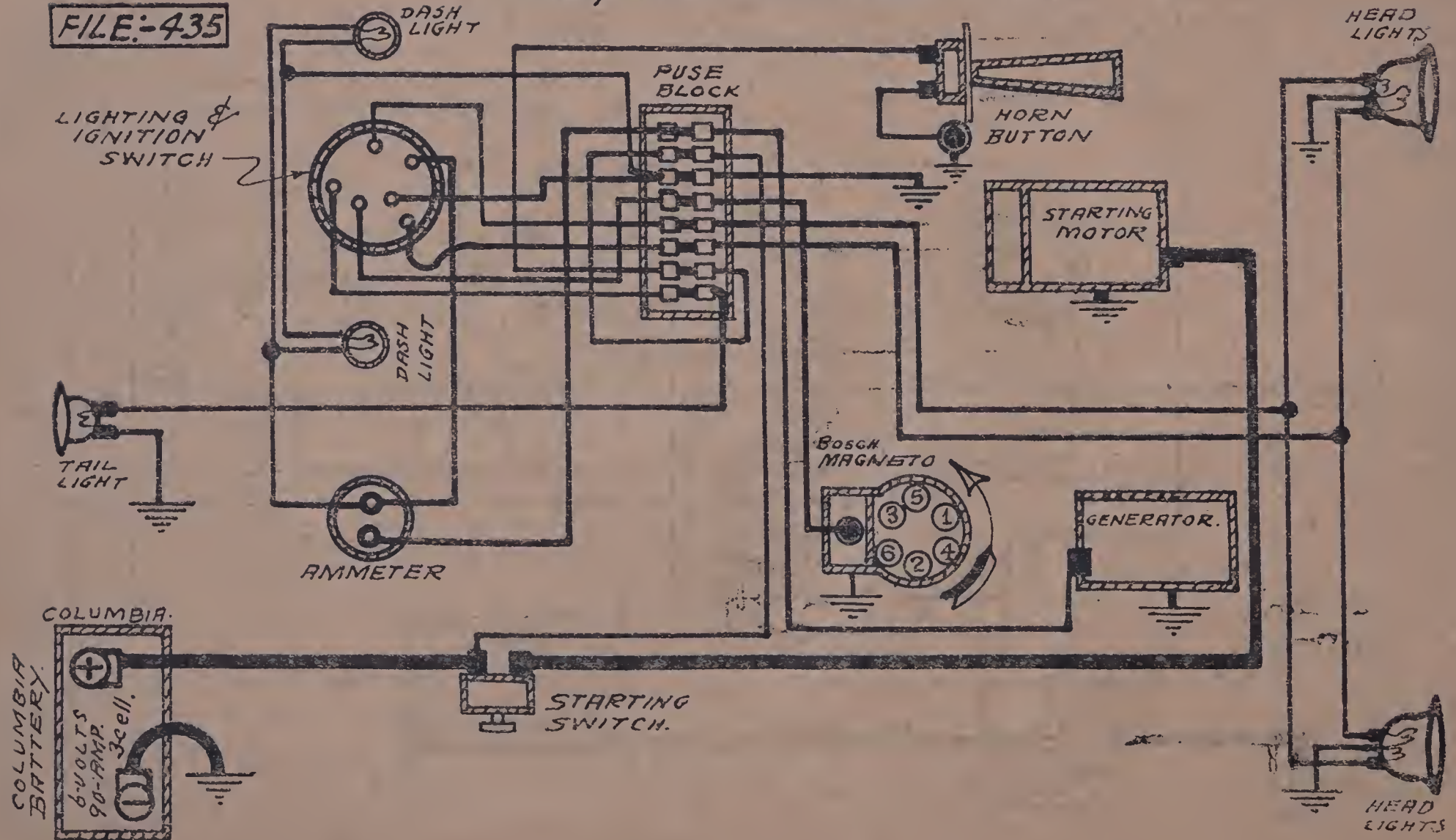
ROAMER

1921

MODEL 6-54E.

6-VOLT, WESTINGHOUSE SYSTEM.

FILE:-435

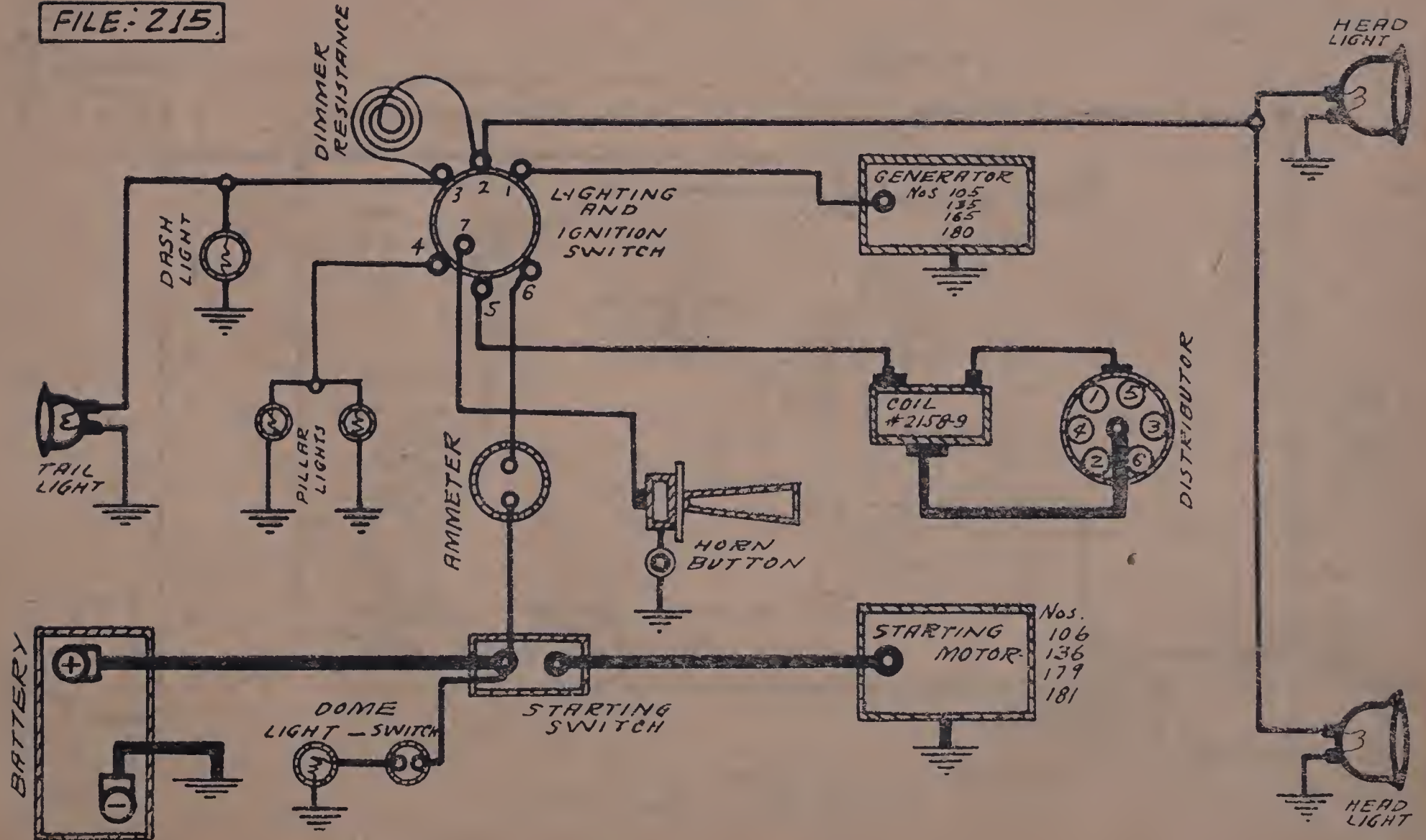


1921

SAYERS

SAYERS - SIX
6-VOLT, DELCO SYSTEM.

FILE: 215.



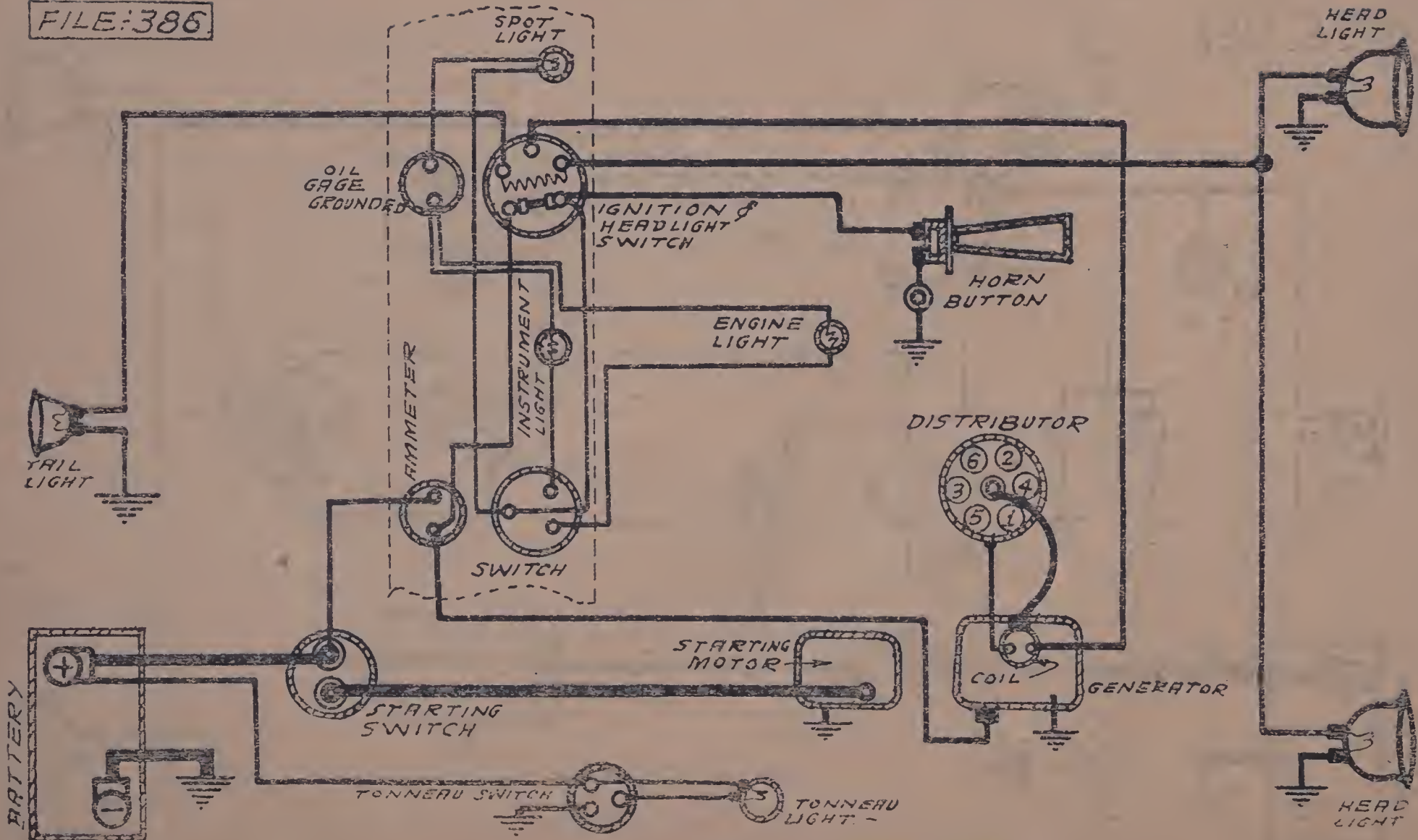
SCRIPPS-BOOTH

1921

MODEL B, SERIES

6-VOLT, REMY SYSTEM.

FILE:386



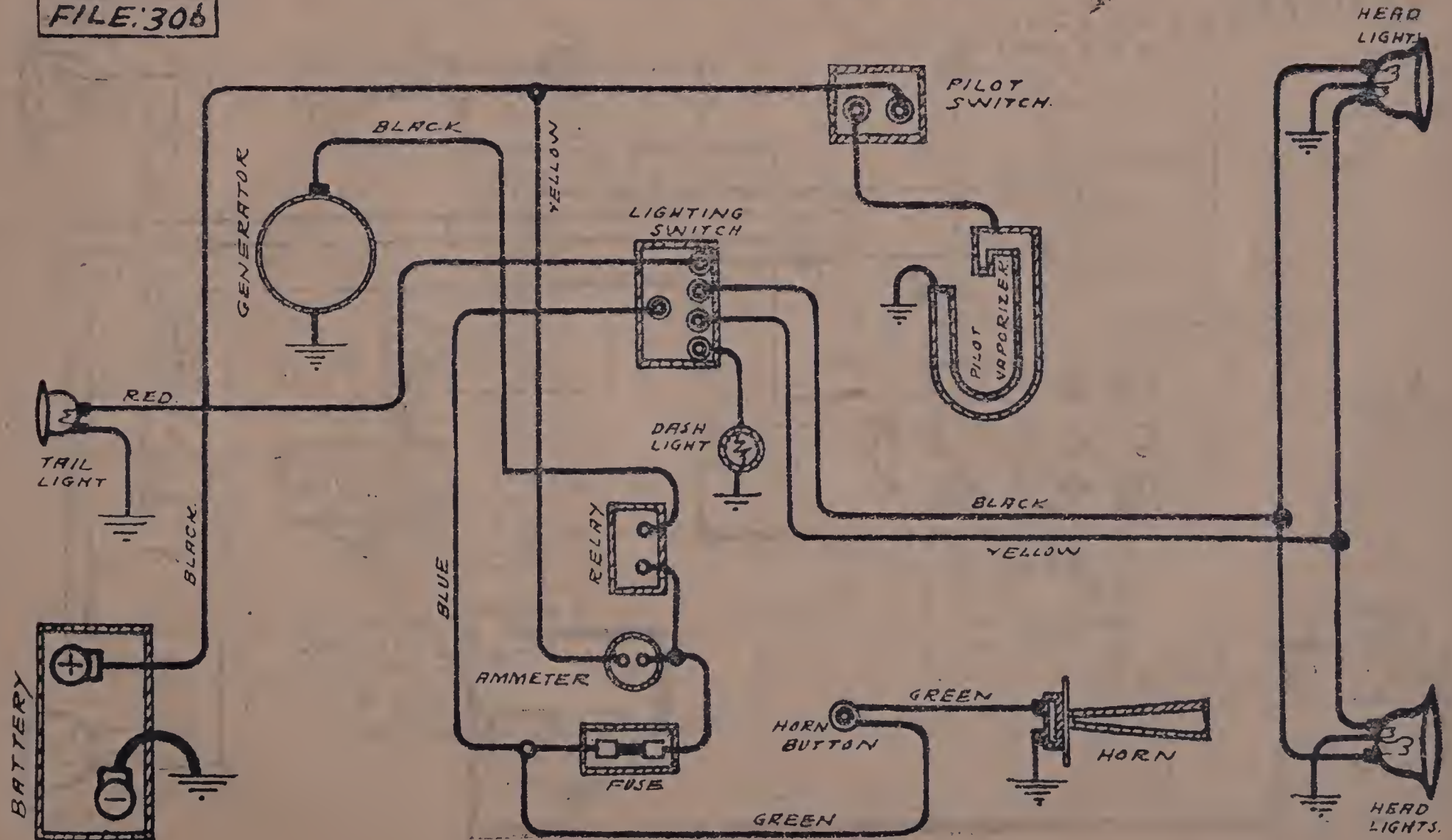
1921.

STANLEY STEARMER

MODEL 735

6-VOLT, REMY SYSTEM.

FILE:306



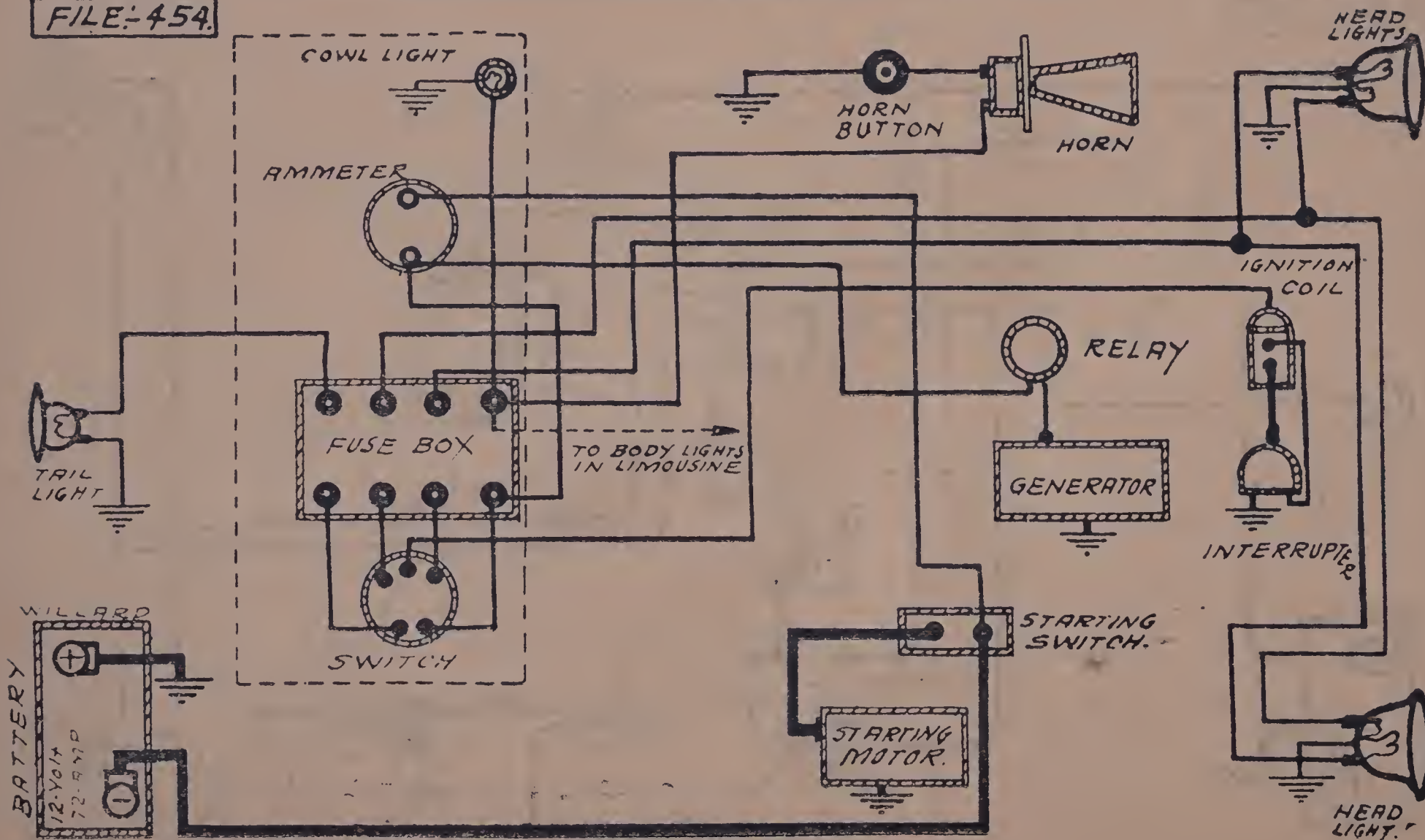
STEARNS-KNIGHT.

1920, 1921.

SKL 4.

12-VOLT, WESTINGHOUSE SYSTEM.

FILE-454.

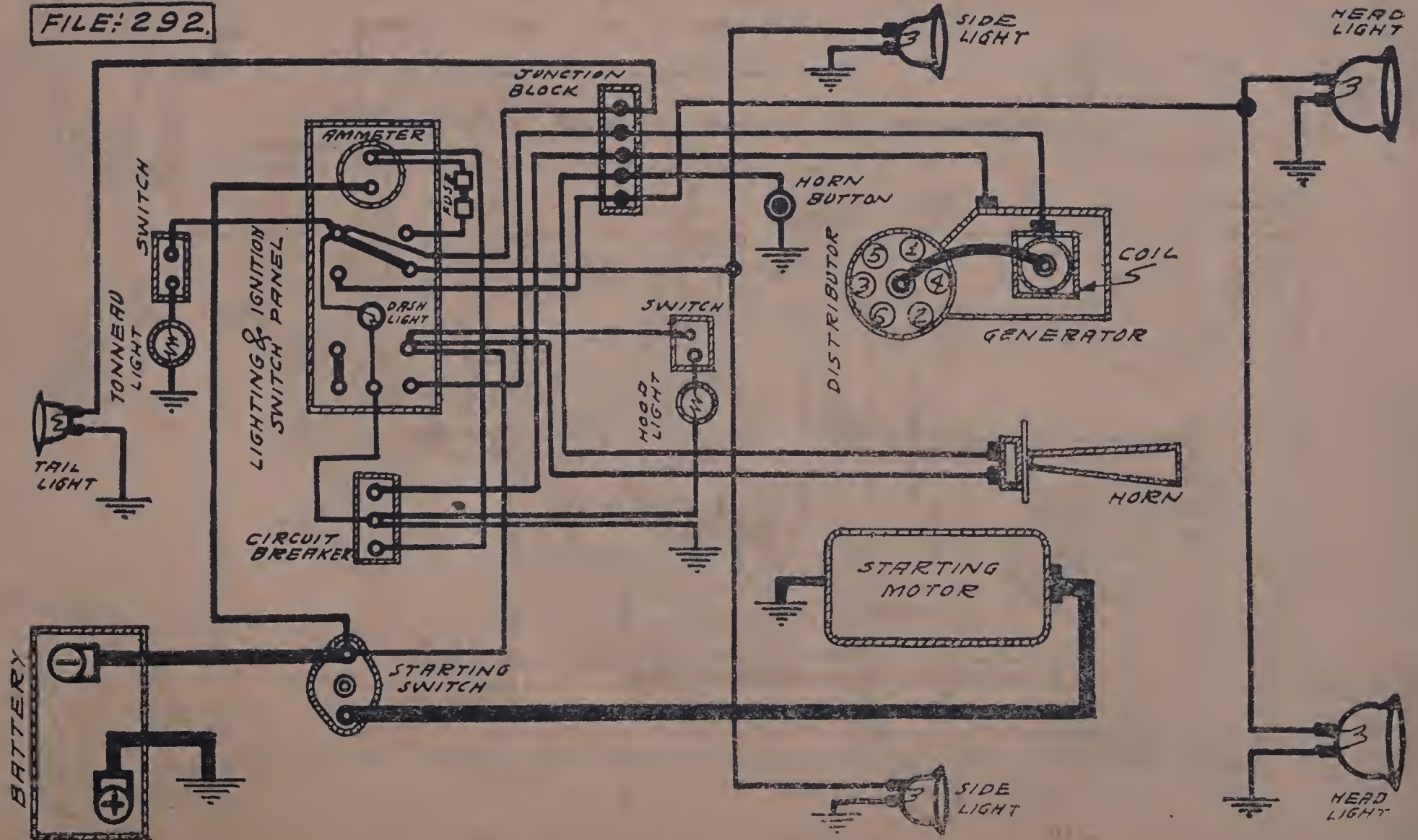


1921

STEPHENS

SALIENT SIX
6-8-VOLT, AUTOLITE SYSTEM.

FILE: 292.

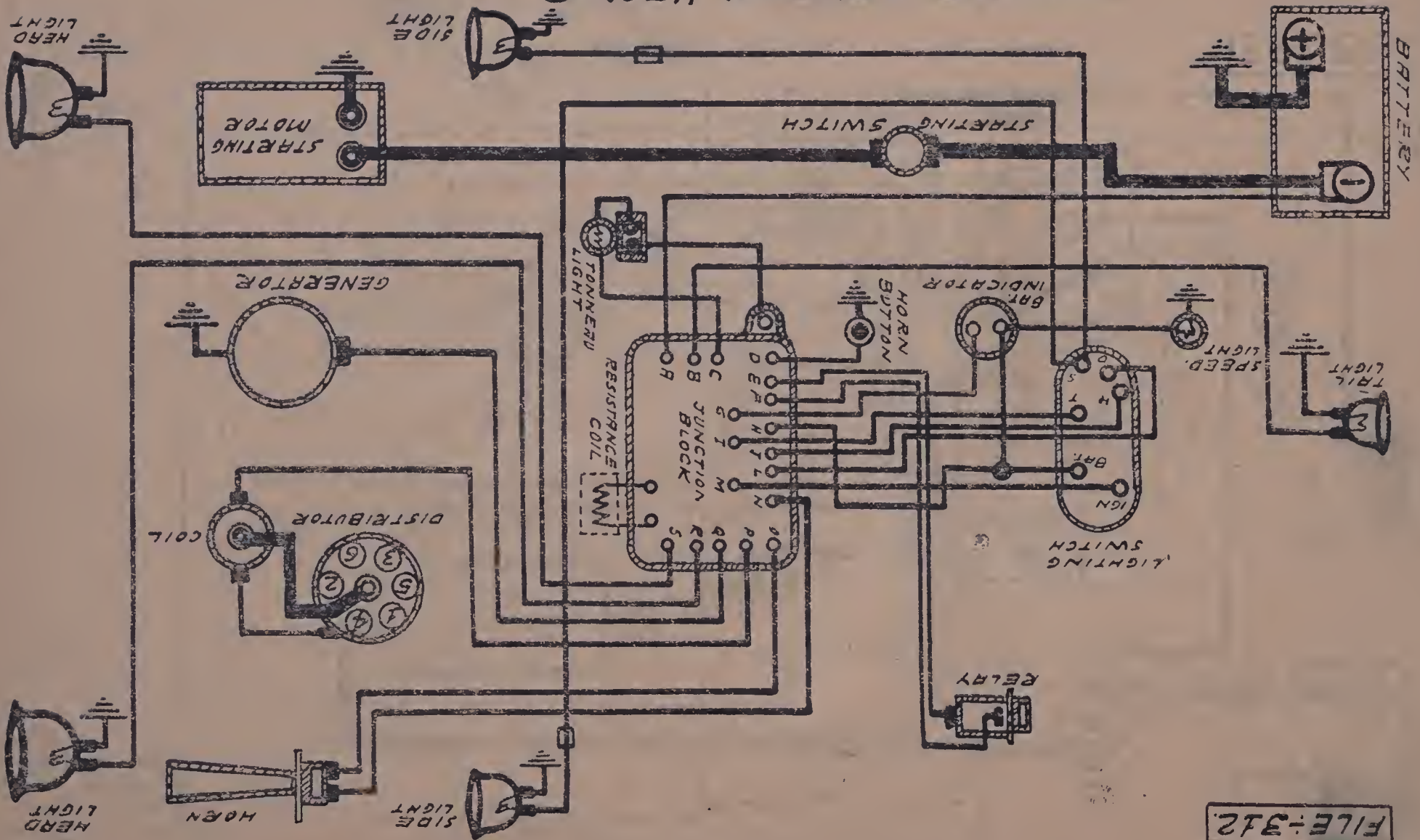


STUDEBAKER.

1921

SIX

6-VOLT, WAGNER SYSTEM.



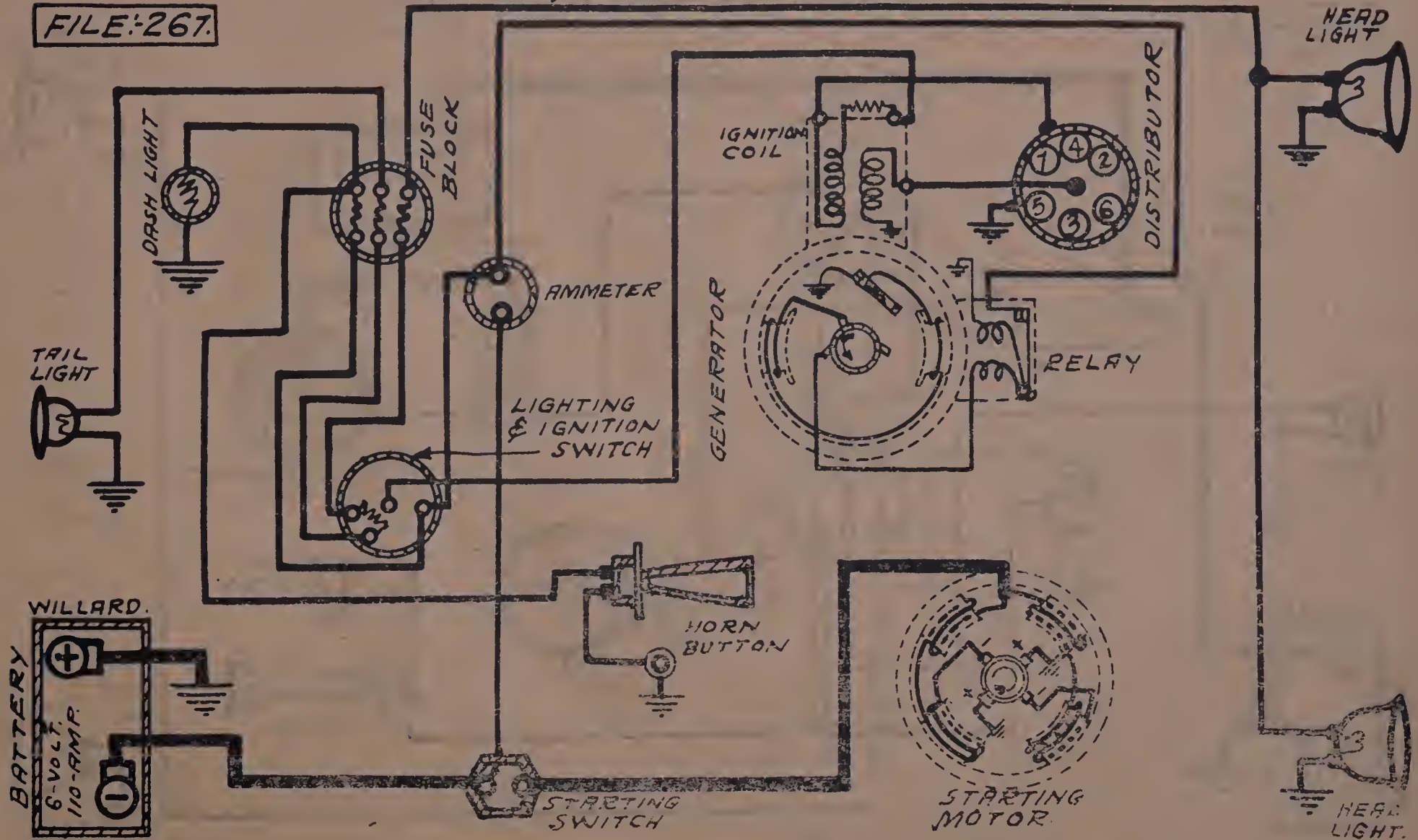
FILE-312

STUDEBAKER.

1920-1921 MODELS.

6-VOLT, - REMY SYSTEM.

FILE:267.



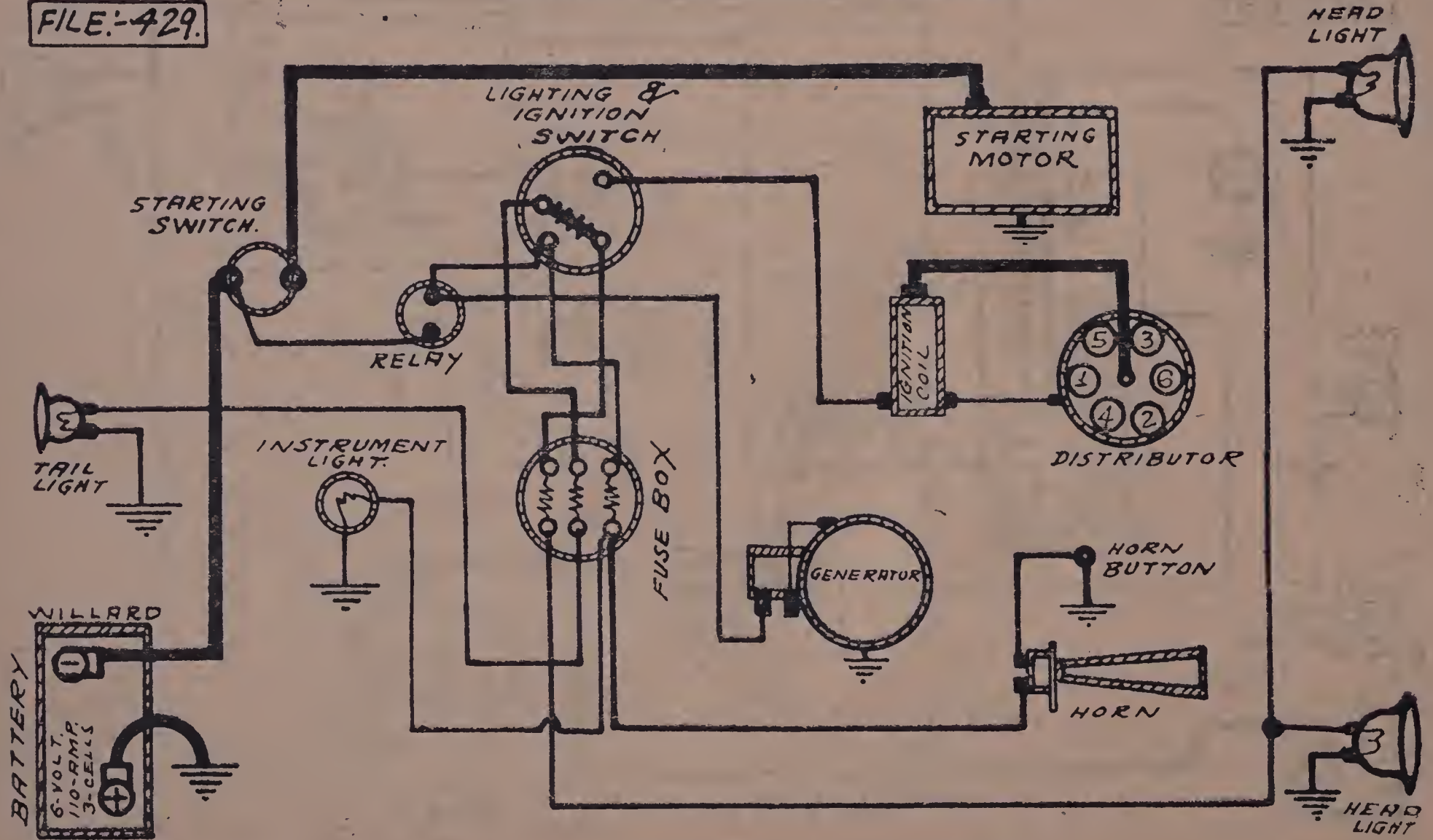
STUDEBAKER

1920-1921

LIGHT SIX.

6-VOLT, -WAGNER SYSTEM.

FILE:-429.



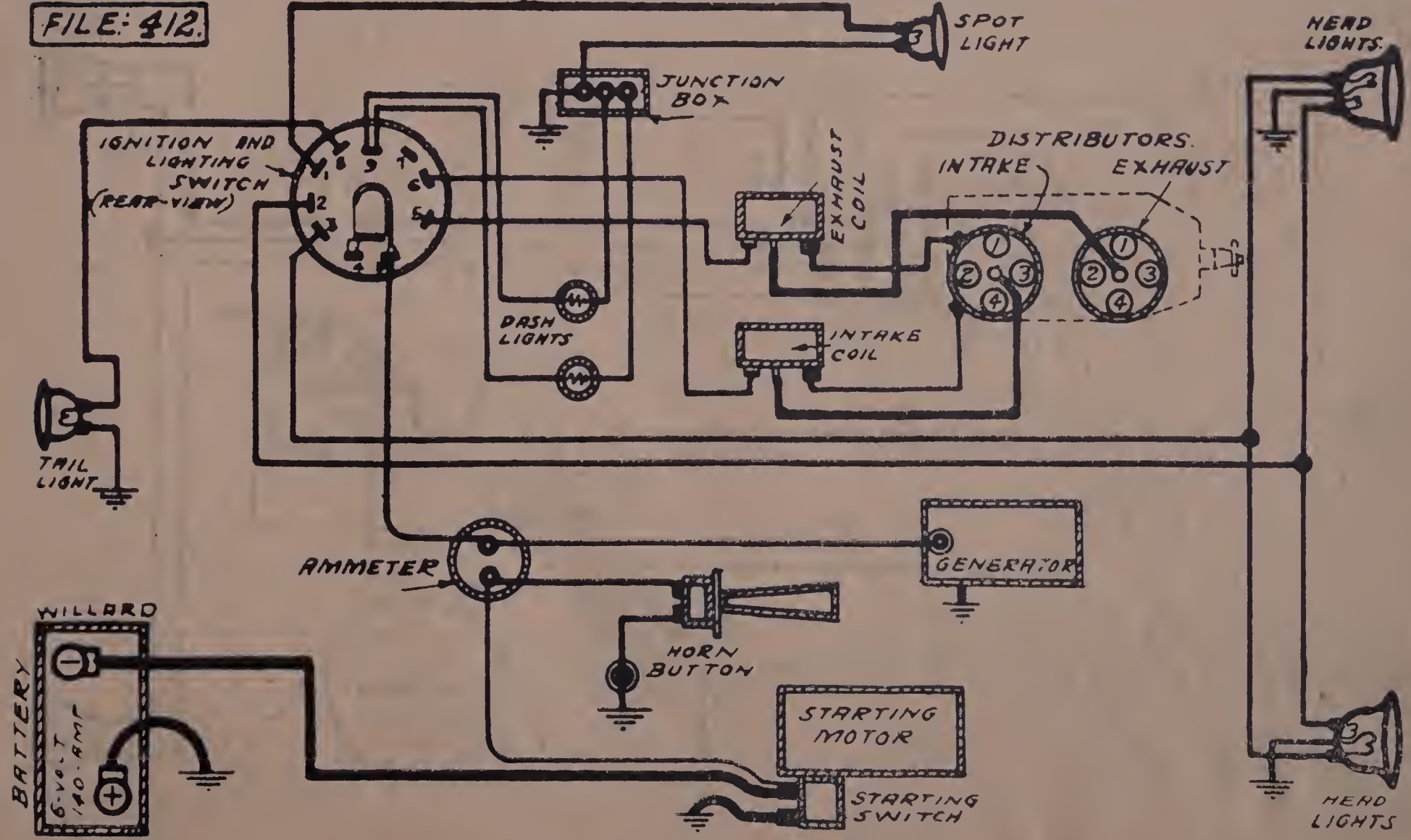
STUTZ

1921

SERIES-K.

6-VOLT, REMY SYSTEM. - DELCO IGNITION.

FILE: 412.

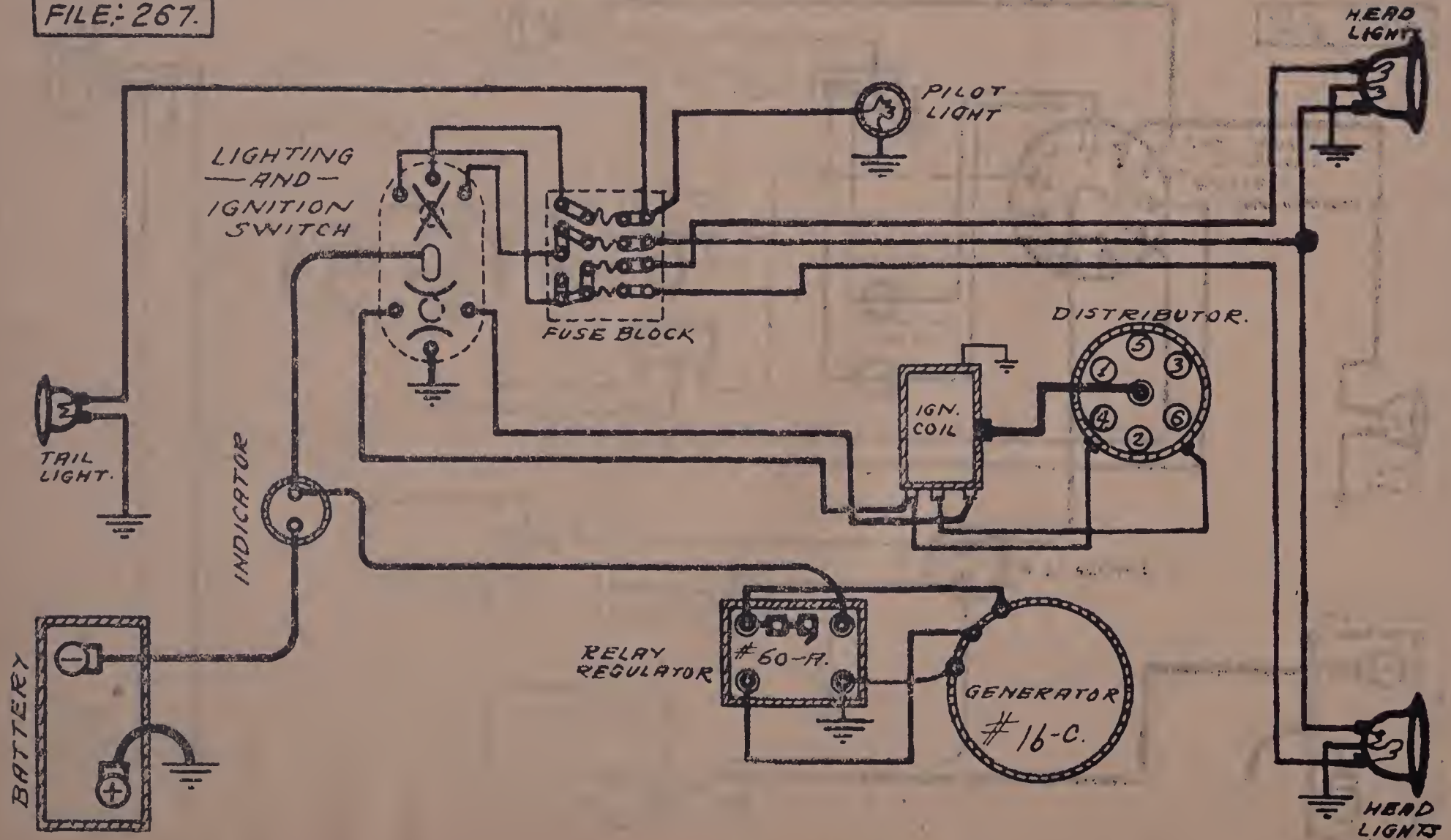


SWEENEY TRACTOR.

1916-1917 MODELS

6-VOLT, REMY SYSTEM.

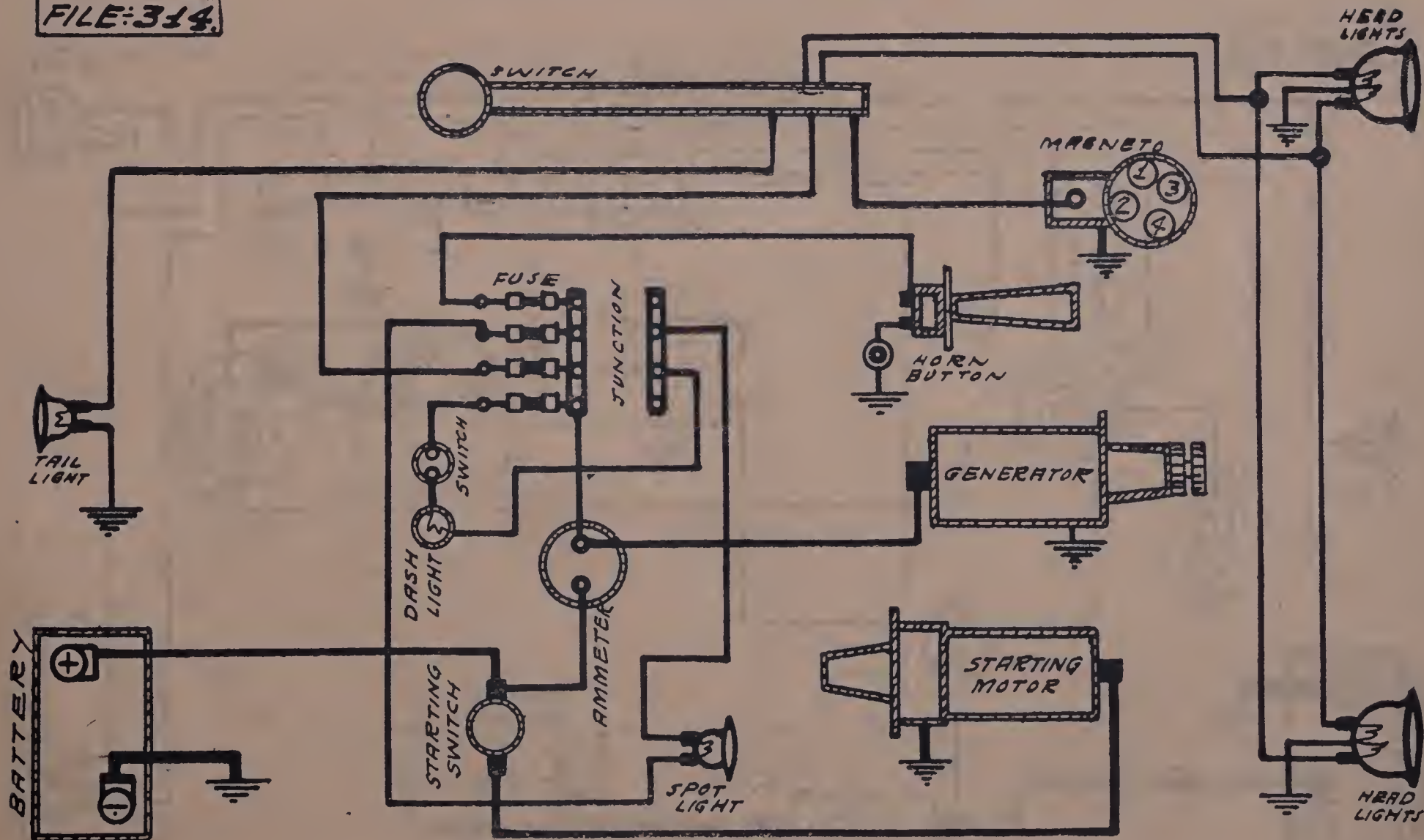
FILE: 267.



1921

TEMPLAR MODEL-445. 6-VOLT, BIJUR SYSTEM.

FILE: 314.



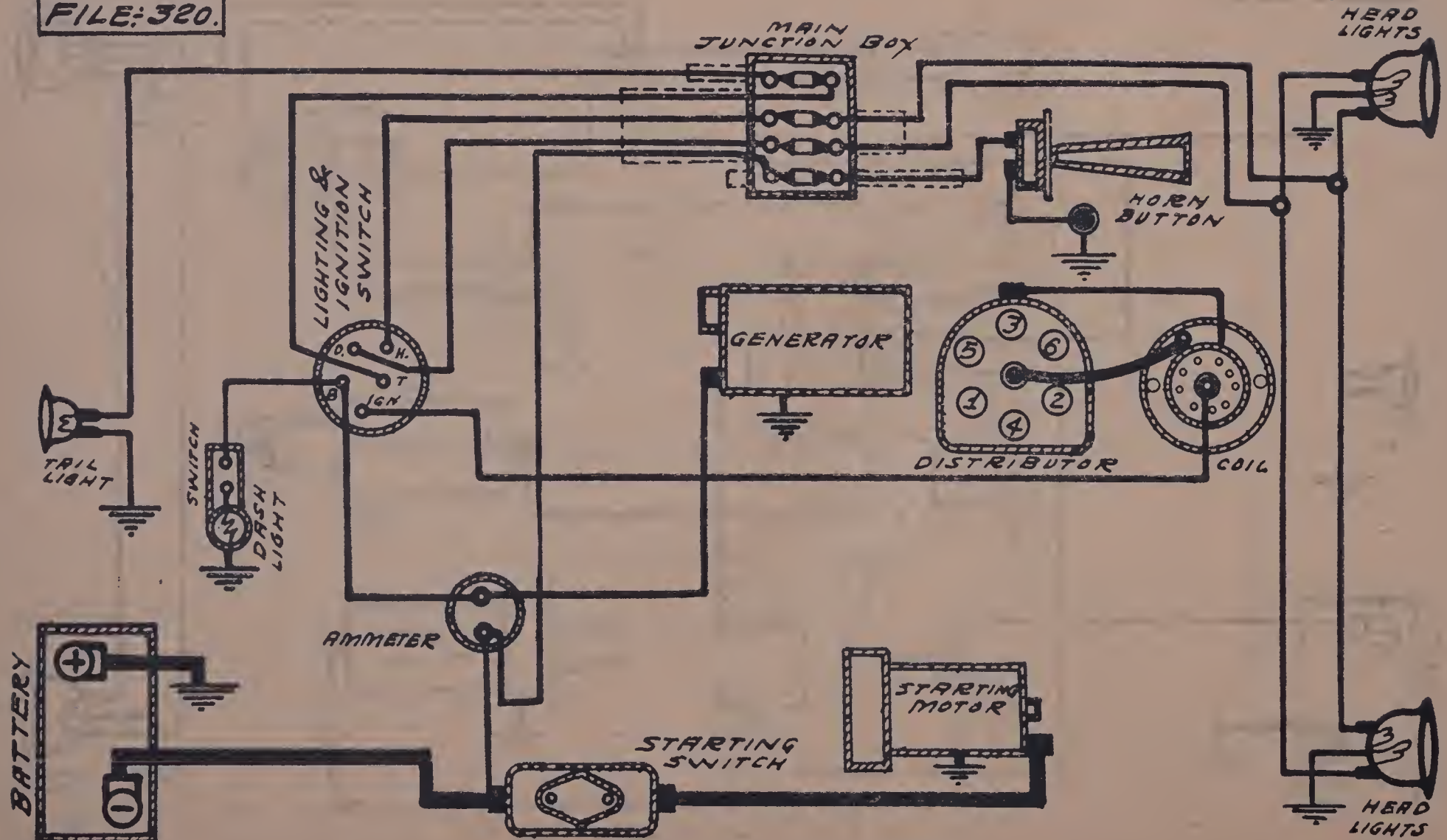
1921

VELIE

MODEL 48, 48-D.

6-VOLT, BITUR SYSTEM

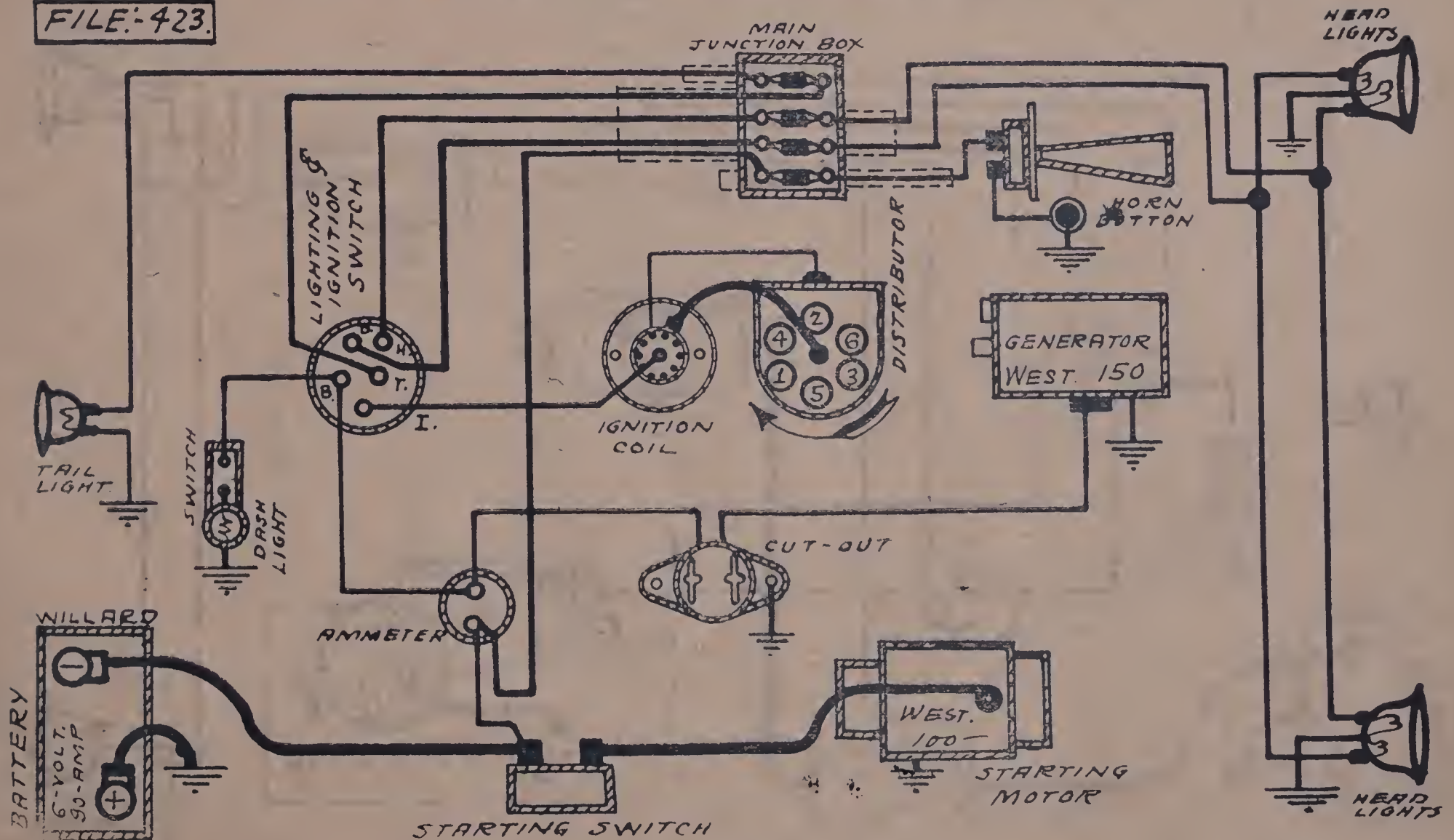
FILE: 320.



VELIE

1920-1921 MODEL-34.
6-VOLT-WESTINGHOUSE SYSTEM.

FILE-423.



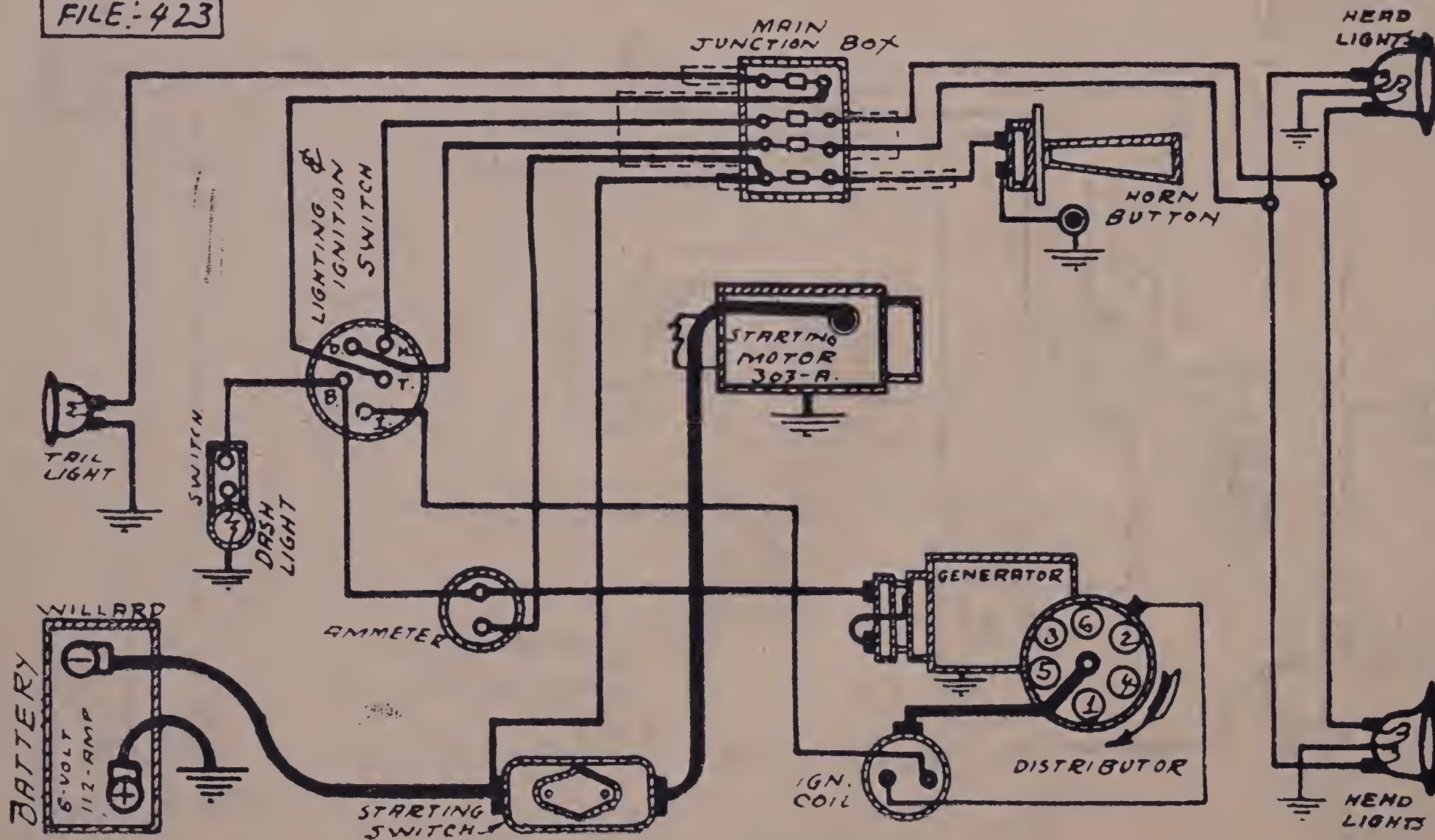
VELIE

1920-1921

MODEL 48-A.

6-VOLT, BIJUR SYSTEM.

FILE: 423



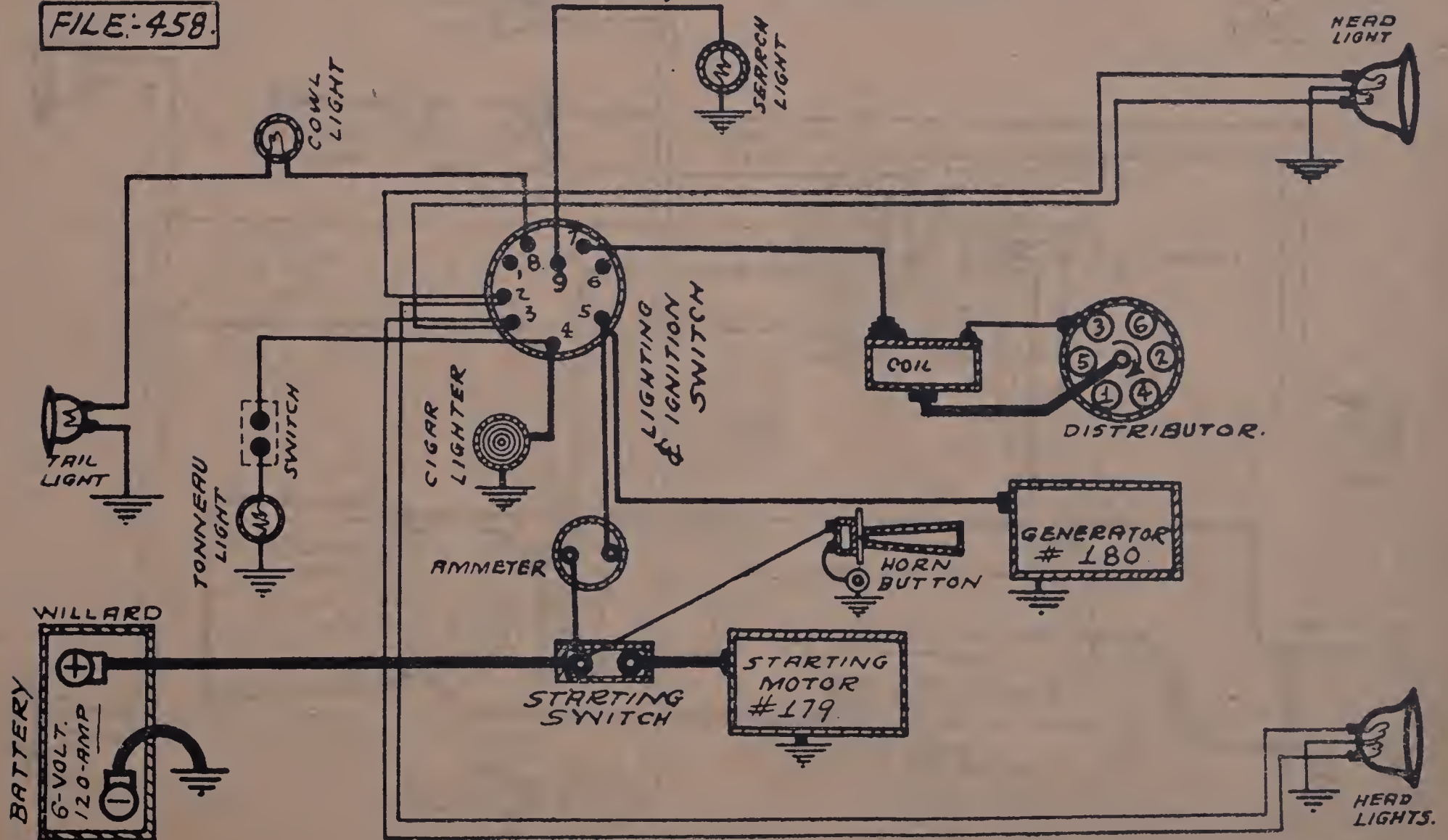
1921.

WESTCOTT

MODEL C-48.

6-VOLT, DELCO SYSTEM.

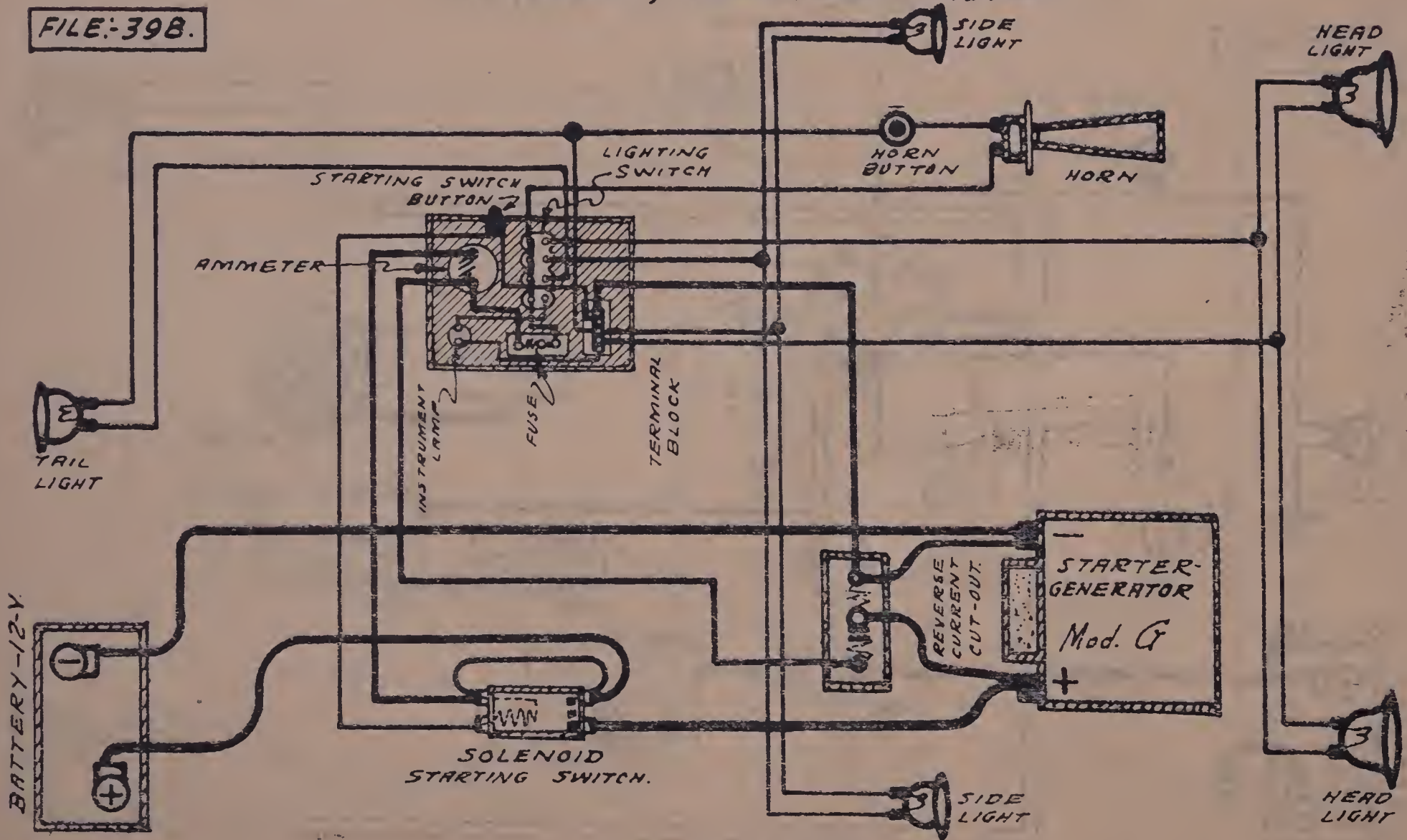
FILE: 458.



WHITE TRUCK

1920 - 1921
12-VOLT, NORTH EAST SYSTEM

FILE: 398.

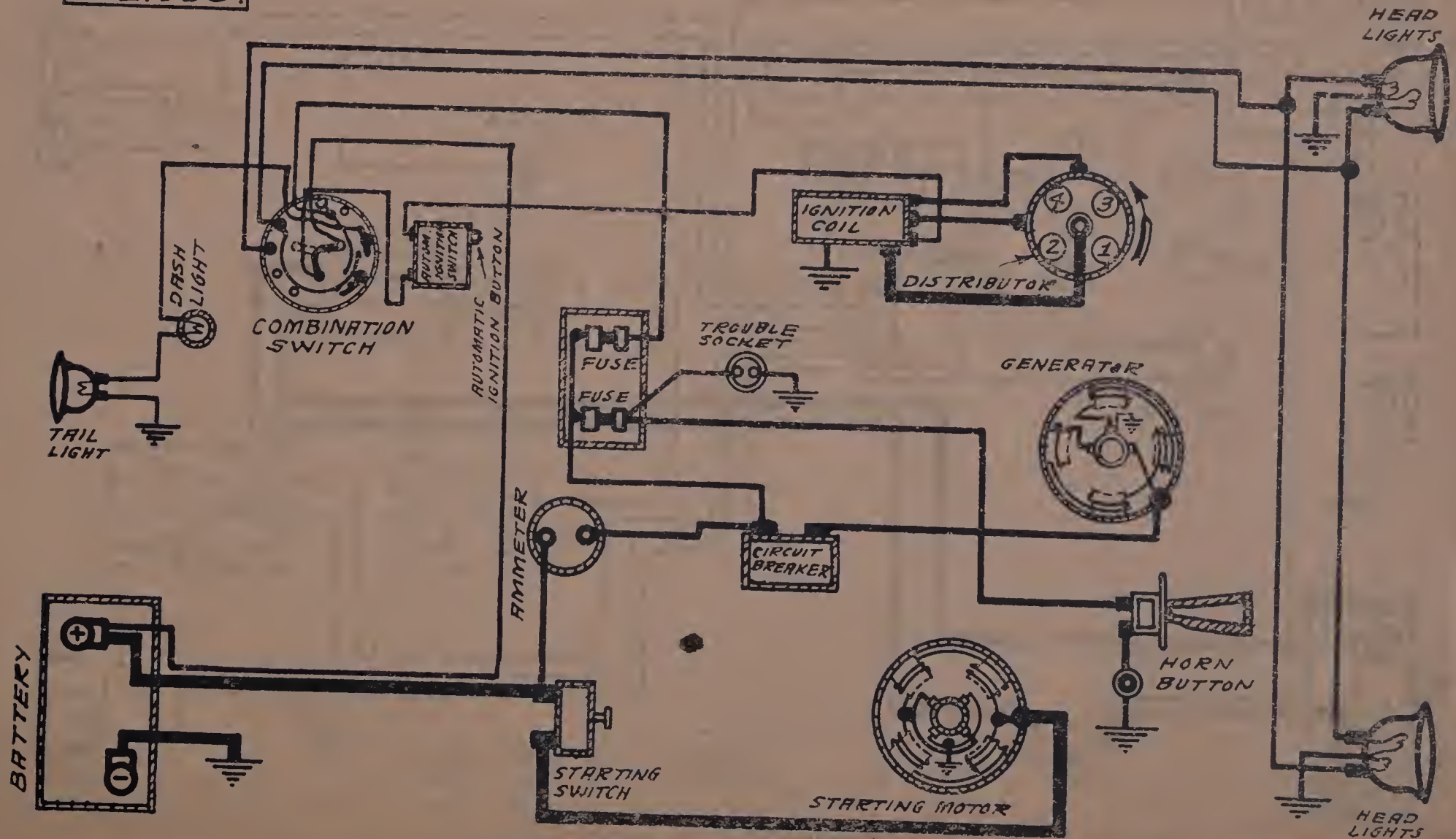


1921

WILLYS-KNIGHT

MODEL 20
6-VOLT, AUTOLITE SYSTEM.

FILE: 385.

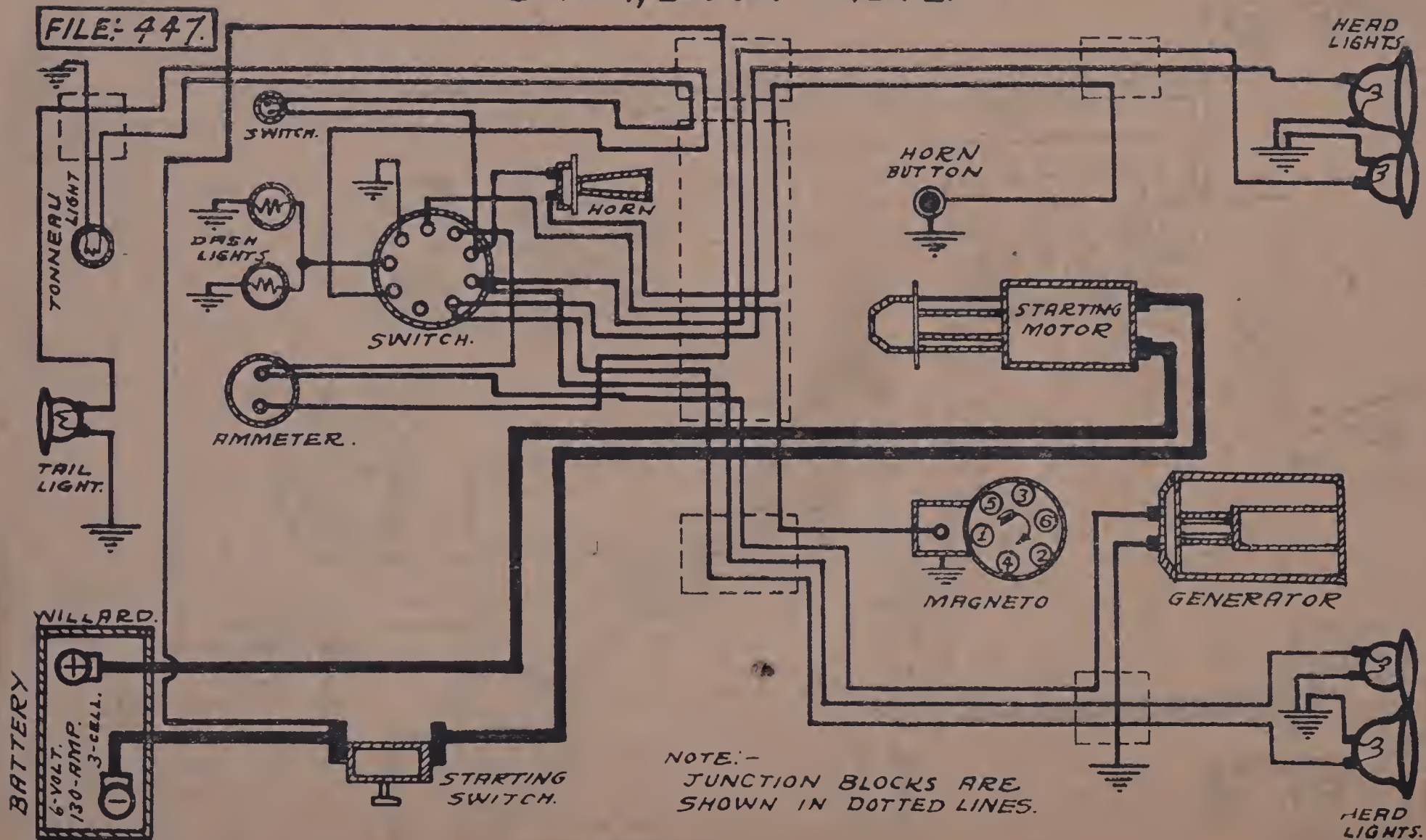


WINTON

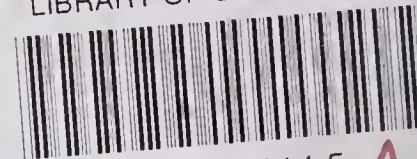
LATE 1920, 1921.

MODEL - 25.

6-VOLT, BIJUR SYSTEM.



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